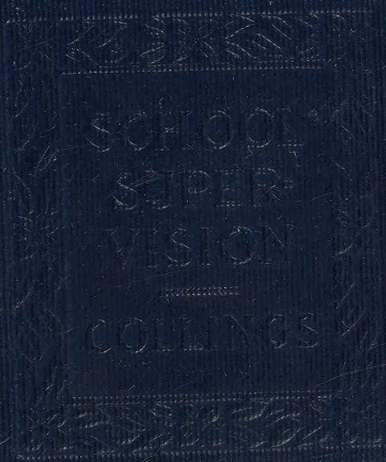
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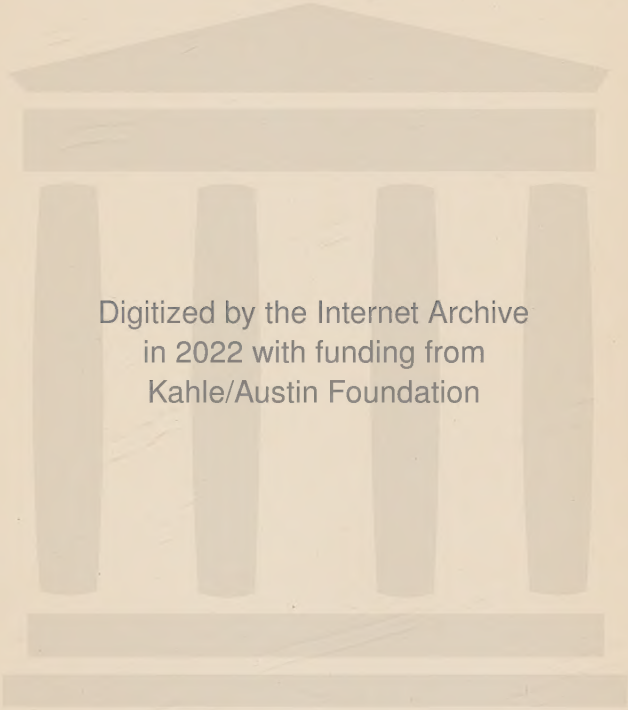
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SCHOOL SUPERVISION
IN
THEORY AND PRACTICE

SCHOOL SUPERVISION
IN
THEORY AND PRACTICE

BY

ELLSWORTH COLLINGS

Dean, School of Education, University of Oklahoma

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TO

Professor Junius Lathrope Meriam

A CONSTRUCTIVE THINKER, A SYMPATHETIC FRIEND,
AND A STIMULATING TEACHER

THIS BOOK IS GRATEFULLY DEDICATED

INTRODUCTION

Lowell suggests the problem of education when he says "every clod has an instinct within it that reaches and towers." Boys and girls want to grow. And it is the peculiar function of the school to guide this instinct's "climb to a soul in grass and flower." It is to further the continuous growing of boys and girls. Of all the school officials, the teacher is the one that is to effect a consummation of this end. She is the one person that comes in direct contact with "every cloud" and she is the one person that is to afford wise guidance in its "climb to a soul in grass and flower." If she fails, the school fails in its mission.

To consummate this end effectually, the teacher is constantly in need of an intelligent helper, a sympathetic friend, and a wise guide—a promoter of her own growth. The supervisor is to perform such a service. As such the teacher soon learns to appreciate her as a friend indeed, a helper when help is needed, and a stimulator of her own growth. And this demands a supervisor with a thoroughgoing understanding and appreciation of "every clod" and how it "climbs to a soul in grass and flower." She is the one who sympathetically understands boys and girls and is a fountain of sound educational theory and practice in the furtherance of their growth. She possesses in this sense a *super-vision* in furthering the continuous growing of boys and girls, otherwise she has no claim to the title of supervisor. She is in fact an artist in the improvement of child

growth and as such is an artist in the improvement of teaching.

The supervisor is similarly in need of an intelligent helper, a sympathetic friend, a wise guide, a promoter of her own growth in performing effectually this service. Continuous growing on her part is a *sine qua non* in effectual discharge of her function, namely, furthering the continuous growing of teachers on the job. One important source of such help is literature dealing specifically with the theory and practice of supervision. If it is to render such service, it, too, must measure up to the standard set for the supervisor. It should be in fact a promoter of the supervisor's own growth, otherwise it has no claim to the title of supervision. It should embody, in short, an improvement of supervision. This volume hopes, in a measure, to live up to this standard. An effort is made particularly to present an improvement in both the theory and practice of supervision for effectual improvement in one demands simultaneous improvement in the other. The concept of continuous growing is at the bottom of the theory of supervision advocated in this discussion. Life itself is interpreted as creative—changing, growing—and consequently *education, teaching, and supervision, each is interpreted as the process of creating, changing, growing.* An improvement in supervision is sought along this line. An attempt is made to harness scientific procedure in the practice of this theory. Scientific measures are employed to reveal lines of teacher improvement and scientific method is utilized in effecting the improvement of teaching along these lines. An improvement is thus sought along this line in supervision practice.

This discussion, therefore, attempts to present an improvement of supervision. The improvement advocated

has been experimentally tested over a period of years in the University Training School, University of Oklahoma, by the author as Director of this School and Mr. F. F. Gaither, Miss Mabel Hodges, Mr. Oren Stigler, Miss Kate Barbour, and Mr. Benjamin A. Cartwright as supervisors, and has proven positively practicable and fruitful. It has been the instrument in this instance in producing better children and teachers. And surely this is the acid test of the value of any proposed improvement of supervision. It must result in better children and teachers simultaneously. In addition, the plan has been put into practice in a number of city schools in this section and has in all these instances proven positively practicable and helpful in the improvement of teaching.

The reader will have no difficulty in discovering certain influences in my own thinking in this field. The first influence is Professor William Heard Kilpatrick. Not only does my interpretation of the aim of education as continuous growing and its corresponding procedure —purposeful activity—come from Professor Kilpatrick, but his guidance, friendship, and suggestions have ever been a stimulator to my own growth. A second influence is Professor Junius Lathrope Meriam. I owe to him more than any one else what understanding and appreciation of child life I possess. His insistence upon the *child's point of view* in education has ever been an influence in my own thinking. A third influence is Professor Frank Morton McMurry and Professor Fannie Wyche Dunn. This insistence upon judging the quality of teaching through observing directly the activities of boys and girls has enabled me to interpret supervision in terms of *the improvement of child growth.* A fourth influence is Professor Werrett Wallace Charters. The

notion that we must somehow scientifically analyze child growth in order to determine the lines of improvement in teaching has profoundly influenced my thinking along the line of utilizing scientific procedure in furthering the continuous growing of boys and girls. These influences, the guidance of my own teachers, have been the forces in my own growth along this line and I am forever indebted to them in this and any other work I may do. I gratefully acknowledge this fact.

It is a pleasure, also, to acknowledge indebtedness to the intelligence and sympathy of the boys and girls, practice teachers, and supervisors of the University Training School and to various superintendents, principals, and supervisors of this section with whom I have had the rare privilege of associating intimately in this work. Their intelligence, sympathy, zeal, and hard work have made possible the actual production of this discussion.

This volume in addition to stimulating the growth of teachers, supervisors, principals, and superintendents on the job, will find ready use in stimulating discussion in college, normal school and reading circle classes. I have found it invaluable in stimulating discussion in my own classes. In fact, this discussion is an outgrowth of several years of conjoint thinking with my group of students in the improvement of supervision. With this origin it ought to be practicable and helpful in stimulating thinking and discussion in other similar classes.

ELLSWORTH COLLINGS.

University of Oklahoma
Norman, November, 1926.

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PART I

THE IMPROVEMENT OF SUPERVISION THEORY

SCHOOL SUPERVISION IN THEORY AND PRACTICE

CHAPTER I

EDUCATION AS GROWTH

1. Child Life and Purposeful Activity. Lowell interprets satisfying and worthwhile life succinctly in these lines:

> Every clod feels a stir of might,
> An instinct within it reaches and towers
> And, groping blindly above it for light,
> Climbs to a soul in grass and flower.

This urge to grow is a biological fact for "whether we look or whether we listen we hear life murmur or see it glisten." It may be the songs of the birds, the joyous notes of the insects, or the glories of the fields. These manifold activities on all sides of us are manifestations of the urge to grow working itself out into the wonderful creations of life. It is life itself. The child is no exception. It is rather a beautiful illustration of the creative urge. Purposeful activity with the child functions *par excellence*. It may be, for instance, playing with things, finding out things, enjoying things, or constructing things. In any event, the bent is to create, to make, to discover, to reach onwards, to grow. Psychology interprets this dynamic nature of the child in terms

of neural mechanisms leading on in many different directions of activity, all craving exercise of some sort. Some act now; others follow. Which of the neural mechanisms shall be in action, at any given moment, depends on the state of readiness of the mechanisms themselves. This readiness, of course, is due to many factors. It may be, for example, due to recent action of the mechanisms themselves; the manner in which they are built; how they are connected with the outside world; or to the organic conditions of the body itself. But some mechanisms are ready at all times and for this reason activity of some kind is ever present. Activity, then, is a neural mechanism in action. It is a response to a stimulus.

Activity in this sense is not to be interpreted too narrowly. It is the *whole* child that responds; not merely one neural mechanism in action but many in action simultaneously. It is not, for instance, the neural mechanisms connected with, say vocalization, visual exploration, and manipulation in action separately. It is rather mechanisms of vocalization, visual exploration and manipulation in action simultaneously. This interpretation of activity is typically illustrated in the Roly Poly Activity described below. Many neural mechanisms are in action simultaneously in this instance. There are the mechanisms connected with finding out how to draw the triangle, how to place the Roly Polys on the triangle, how to bowl properly, how to keep score, etc. Another marked group of mechanisms in action are those connected with communicating scores to each other, expressing delight at successful bowls, advising others how to play, etc. Then, too, there are the mechanisms connected with walking to the bowling line, standing with feet on the bowling line, bowling at the Roly Polys, recording scores, etc. This

does not exhaust the list; others might be pointed out. But these more fundamental ones suffice to illustrate the many mechanisms in simultaneous action at any particular time. Purposeful activity is, in this sense, the functioning of an aggregate of neural mechanisms along a particular line. It is, in other words, an occupation engaging the whole child, and is by no means limited to games. The same might be true with children in dramatizing the Gingerbread Man, telling the story of the Three Bears, illustrating the story of Jolly Old Saint Nicholas, playing the story of the Three Blind Mice on the phonograph, enjoying the picture of the Three Kittens, making a kiddy car, or finding out how to make divinity fudge —in fact anything that engages the whole child. Purposeful activity is, therefore, natural: *it is life itself.*

THE ROLY POLY ACTIVITY

I. Purposing. "Pshaw, I'm so tired," remarked James (near the close of the story conference). "We've been telling stories so long."

"Let's play Roly Poly," suggested John. "I'm tired too. My feet have gone to sleep."

"Gosh, John, that's what I want to play too," interrupted Lonnie. "I bet I can win."

"Shame, Lonnie, don't you know what mamma said she'd do if you didn't quit saying that word," scolded Jennie. "I'd like to play volley ball."

"Say kids, I'll tell you what let's do," exclaimed Mary. "Let's dramatize the Gingerbread Boy story. I just hate old Roly Poly."

"Shucks, Mary, all you can think about is old stories," retorted Bill. "I'd like to play a game of town ball."

"Billy Johnson, don't you know we'll have to play town ball outdoors?" explained Iona. "We can't play today."

"Why?" exclaimed Billy. "All we'd have to do is to get the bat, ball and glove."

"It's raining, don't you see?" continued Iona. "We can't play in the rain."

"Shucks, you're just afraid you'll get that new dress wet, I guess," retorted James.

"I know! I know!" exclaimed Carl. "Let's play inside."

"Well! Well! This room isn't big enough," broke in Christine. "We'd have to go outdoors."

"Oh, me," sighed Carl. "I guess you're right."

"We can't play volley ball either," exclaimed Kenneth. "That's hard luck."

"Well, why?" queried Jennie. "All we'd have to do is to put up our net and decide on our score."

"We'd have to play outdoors though," continued Kenneth. "Don't you see it's raining?"

"Gee, we can play Roly Poly," argued John. "We can play right in this room."

"Sure," agreed Bobby. "All we'll have to do is to make our triangle and bowling lines."

"That's not all," disagreed Jimmie. "We have to decide on our rules and make our score board."

"You're right, Jimmie," interrupted Lonnie. "But that's easy."

"I know what we can do," broke in Mary. "We can dramatize the Gingerbread Boy right where we are."

"That's right," agreed Jennie. "But it would take too long to get ready."

"Wouldn't take any longer than Roly Poly," argued Mary. "All we have to do is to select our characters and act out our parts."

"But all of us can't take part," explained Carl. "We can in Roly Poly."

"Can too," retorted Mary. "There's a part for every one. You just don't want a part. I won't take a part in your old Roly Poly either."

"Shucks, Mary, you don't know what you are talking about," interrupted James. "You'll play if the rest of us do, won't she, Miss Burke?"

"Surely," remarked Miss Burke. "Whatever the most of us agree on is what we'll do, isn't it?"

"Well, I guess so," grumbled Mary. "I just hate old Roly Poly though, I want to dramatize my story."

"Oh, ho!" laughed John. "I thought so" (referring to Mary's story). "I'm just dying to play Roly Poly."

"Let's vote," suggested Lucille. "We've discussed everything suggested."

"I'm ready to choose one," added Jennie.

"Me, too," shouted Neva. "You know the one getting the most votes is the one we'll do."

"Sure," interrupted Iona. "Oh! I can hardly wait."

"Roly Poly is my choice," exclaimed Carl.

"It's mine too," put in John. "That's two votes—see?"

"I'm for dramatizing the Gingerbread Boy story," shouted Mary. "That is one vote."

"Put me down for Roly Poly," insisted Lonnie. "That's three votes."

"Yes and me," added Billie. "It's going to be unanimous."

"It's not, smarty," remonstrated Mary. "I never voted for Roly Poly,—see?"

"And Kenneth didn't vote for anything," added Jennie. "Roly Poly got the most votes though."

II. Planning. "What do we do first?" asked Jimmie.

"First thing we'll have to do is to draw a triangle," interrupted Billie. "And I'm what can do it."

"No, *I* want to draw the triangle," interrupted Iona.

"Oh, pshaw! Girls are always wanting to boss," grumbled Billie. "I'll bet you don't know what a triangle is. Let's see you draw one on the board."

She drew a *four*-sided figure and James laughed and laughed.

"Oh! Ho!" laughed Billie. "I thought so. A triangle has only three sides."

"My sister Mabel said it had *four,*" answered Iona in defense. "And she knows more than *you* do, Billie Buchanan Carter!"

"How about it, Miss Burke?" asked Billie.

"James is correct," answered Miss Burke. (She brought out the triangle they had been using in their little orchestra.)

"See!" said Miss Burke. "A triangle is a surface bounded by three sides."

(Iona was convinced.)

"How long do we have to make the sides of the triangle for our game?" asked Jennie.

"I'd like to make the sides of our triangle four feet long," suggested James. "You know, you have to place the Roly Polys on the lines of the triangle and we want to have plenty of room."

"Yes, and another rule calls for bowling lines to be drawn on the floor at a certain distance from the triangle," suggested Neva.

"When you draw that triangle, does the top of the triangle face the bowling lines?" asked Lonnie. "I forget."

"That's a good point," suggested Miss Burke. "I wonder who can answer Lonnie's question?"

"Yes, the top of the triangle has to face the bowling lines," answered Christine. "I read that two or three times so I wouldn't forget it."

"How many bowling lines do we need in this game?" asked Jimmie.

"Let's have three bowling lines," interrupted John. "One could be five feet from the triangle, another ten, and another fifteen."

"Well, what I want to know," said Billie, looking puzzled, "is how far from the triangle do the bowling lines have to be?"

"Just any distance you want to make them," suggested James.

"Oh, me," sighed poor little discouraged Mary. "I can never play this game. Too many big words. I don't know what bowling lines are."

"Each player has to stand on one of the lines and roll the balls toward the Roly Polys; rolling the balls is called bowling, and the line you stand on is called the bowling line."

"Well, I can't see," interrupted Iona, "why we need more than one bowling line. Why can't we all stand on the first one?"

"You don't," interjected John. "But it's more fun to have two or three. Anyway I read in one game book where there can be more than one bowling line and the score you make is always counted by the line you play."

"Yes," agreed Kenneth. "And another thing it said was the score value of the line nearest the triangle is least and the one farthest is greatest."

"Oh, gee!" broke in Lonnie. "I'll take a chance on the farthest line. I'm better on long throws."

"I won't," objected Neva. "I'd rather be close."

"Girls are little 'fraidy cats, anyway," teased Lonnie. "It's easy from the farthest line."

"Boys think they are so smart," pouted Neva. "Anyway, if I stand on the closest line, I'll not miss so many Roly Polys, I guess."

"Listen here," admonished Carl; "you can stand on any line you wish, and you can change any time you wish."

"I don't believe that," argued Lonnie. "Your score is counted from the bowling line you play on."

"I know that," explained Carl. "But you can change any

time you wish, and the score counts from the line you bowl from."

"How's that done?" queried Billie. "I'd like to know."

"Well," continued Carl, "if you select the first line and bowl a Roly Poly over with your first ball, you'd make one; if you then changed to the second line and hit a Roly Poly with your second ball, you'd make two, see?"

"Yes," replied Billie.

"And if you then changed to the third line and hit another Roly Poly with your third ball, you'd make three," continued Carl. "If you want to, you can throw all three balls, from any one of the lines, though."

"I see now," remarked Lonnie. "I know how, now."

"Well, we haven't decided about the size of the triangle yet," explained John. "I want to make each side four feet long. How about it?"

"You said you had to put the Roly Polys on the triangle, didn't you?" queried Neva (who found it hard to remember everything).

"Yes, I told you that," replied John sharply. "You have to put one on each corner and two on each side. You have to be sure and have them the same distance apart."

"I think the sides of the triangle are too long," objected Iona. "It would be hard to hit a Roly Poly when they are so wide apart."

"Aw, Iona! You don't know. You never did play this game," exclaimed Lonnie (with an important air). "That's just the right size. If it was any smaller, you'd miss the whole triangle."

"How many of you think like Lonnie and some of the rest of us?" queried John. "Let's vote."

"I'm for four feet," exclaimed Lonnie.

"Me, too," added John.

"I'm not," retorted Iona. "What do you say, Mary?"

"I don't care," replied Mary. "I'm not voting."

"Well, how about the bowling lines?" insisted Iona. "How many lines do we want and what shall the score value be for each one?"

"How about three lines—one, five feet from the triangle; another, ten; and another, fifteen?" suggested John.

"That's about right," agreed James. "We had that same distance before."

"Well, how about the score value," interrupted Billie.

"I think the first line should be one; two for the second; and two for the third," answered Neva.

"I want the three lines, all right," said Carl, "but I'd rather have the score values one, two and three. You know, you ought to get more for taking chances on the farthest line."

"I hadn't thought of that," answered Neva. "I believe that would be better."

(They all agreed on the score value for the bowling line as one, two, and three.)

"How about the balls?" inquired Lonnie. "Do you roll them on the floor or pitch them like Dad does horseshoes?"

"I want to know whether you throw all the balls at once or play only one at a time," interrupted Jimmie.

"Goodness no," replied Kenneth. "You know you don't throw three balls at once or—you get three chances, but you roll only one ball at a time. You must remember to roll them—not throw them."

"Let's see you roll one," said Jennie. "I know a lot depends on just the way you use the balls."

"You are right there," answered Kenneth (and proceeded to show what he could do).

"Oh, Kenneth, you forgot something!" reminded Carl. "You know each player has to put the balls in this little box on the first bowling line when he is through."

"Aw, I didn't forget," replied Kenneth, good-naturedly. "You are right, that makes the game go faster."

"Do we play in teams?" asked Carl. "I hope so, and I can be captain."

"Why you wouldn't make a good captain," answered Jennie, quickly. "You are too little. Captains are big and fat. I don't want to play in teams."

"Aw! It's more fun to play in teams!" admonished James.

"I don't care, you are not running the game," interrupted Jennie. "Let's vote."

(They agreed to play individually.)

"Do you have to stand with your toes right on the line like you have to in Bean Bag?" asked Billie.

"You bet you do," answered Lonnie quickly. "You have to put your toes on the line. If you don't, you lose your turn."

"We've talked about everything 'most but the score. I'd like to know how you count it," suggested Jimmie.

"Well," answered John, "if you stand on the first bowling line and bowl a Roly Poly over with your first ball, you'd make

one; if you put one over with the second ball, you'd make two, and if you put one over with your third ball, your whole score would be three. You have to 'holler out' your score real loud every time you roll a ball."

"What if you don't hit any Roly Polys at all?" asked anxious little Jimmie.

"Well, then you'd make a zero," answered Christine.

"I don't know how you'd write it on the board," sobbed Jimmie.

"Why, you'd make just a figure naught, like this: 'o,'" explained Christine, making one for him on the board.

"I'm not much good on figgers," said Jimmie. "What would you make if you made one on the first roll and didn't make anything on the second or third?"

"Why Jimmie," exclaimed Neva, "you know you'd have only one."

"No, he wouldn't," argued Billie. "He wouldn't make a thing, would he Mary?"

(Miss Burke had to come to their rescue. She explained and illustrated that such a score would be one, for when a naught is added to one, the sum is one.)

"Oh, I remember now," interrupted Jimmie. "When you add naught to another figure, it doesn't change it."

"That is correct," answered Miss Burke.

"Do we have to keep our own scores?" asked Jimmie.

"Yes, don't you remember what I told you about hollering your score out loud each time you rolled?" scolded John.

"What if you don't add right?" asked Jimmie (who was much concerned over his addition).

"Oh, any of us will tell you," answered Lonnie (who knew he was good in numbers).

"Is there anything else we have to consider?" inquired Miss Burke.

"Yes," said Fred, looking puzzled. "How about changing bowling lines? Can you change lines anytime you want to while you are playing?"

"Yes, you may," replied Miss Burke. "Your whole score is always determined by the line from which you bowl. If you selected the first bowling line for the first throw and hit a Roly Poly, then selected the second line for your second throw and hit a Roly Poly, and then selected the third line for your next throw and succeeded in bowling over a Roly Poly, what would your total score be?"

"Six," answered James promptly.

"I can't see how you get six," said poor little Jimmie.

"Can you explain, James?" asked Miss Burke.

"Well," answered James. "You see the first bowling line counts one, the second two, and the third three. You'd hardly ever be lucky enough to hit a Roly Poly from each of the lines, but if you did, you'd make six."

"Oh, pshaw, I can't see it," answered Jimmie, scratching his head.

"Well, you can add one, two and three. Can't you do that?" inquired James.

"Oh, yes I see!" responded Jimmie (all smiles once more). "One plus two plus three equals six. Gee! Counting is not hard when you once know how. If you make the most at the end of the game, will you be winner?"

"Of course," said John. "I'm getting terribly anxious to start."

"I wish we could write the rules on the board," suggested Lonnie. "I never can remember everything if we don't."

"Let me do the writing," entreated John, stepping quickly up to the board. "I can write the fastest of anybody here."

(They all agreed to let him.)

The rules proposed by the different pupils and written on the board were as follows:

RULES FOR PLAYING ROLY POLY

1. Draw a triangle on the floor, making each side four feet long.

2. Mark off three bowling lines facing the point of the triangle. Make the first bowling line ten feet from the triangle, the second fifteen, and the third twenty feet.

3. Write the figure 1 (score value) at each end of the first line, the figure 2 at the ends of the second line and the figure 3 at the ends of the third line.

4. Arrange the Roly Polys on the triangle, one from each corner and two at the equal distances on each side.

5. The player is to pick out his bowling line from which he is to bowl three balls, one at a time, toward the Roly Polys.

6. The player may change his bowling line from time to time, if he likes.

7. The player is to stand with the toe of his shoe on the bowling line when bowling.

8. The player is to put the balls, at the end of each play, in the small box on the first bowling line.

9. The score for each bowling is determined by the score value of the line.

10. Each player is to keep his own score and is to announce it loudly when each bowling takes place.

11. Mistakes in score keeping are to be corrected by the players.

12. The one who makes the highest score at the end of the game is the winner.

ARRANGEMENTS FOR THE GAME

"Now," said Lonnie. "That's done. Aren't we about ready to start?"

"We haven't talked about the things we need," suggested Neva.

"We need nine Roly Polys, don't we?" asked Fred.

"Yes," answered John. "And we need a ruler and chalk to make the triangle and bowling lines."

"We have to have three rubber balls and a small box," interrupted Christine.

"I believe that's about all we need, with the blackboard, chalk and eraser, isn't it?" asked Neva.

(No one could think of anything else.)

"I'm going to play first," said Jennie.

"You always want to be first," scolded Lonnie. "She always gets the best piece of chicken and everything at home."

"I want to be second," chimed in Jimmie.

"Girls first," suggested Neva.

"Let's have a girl and a boy, a girl and a boy," suggested John. "And I'll tell you. Let's let the one play first who makes the highest score last time we played."

(They all agreed to this. They were to play in the following order: James, Christine, Lonnie, Jennie, Jimmie, Iona, Carl, Mary, John, Neva, Kenneth.)

"I want to know how we're going to keep up with our scores," queried Billie. "Let's make a score board like we use in town ball."

"That's just what I was going to say," added Carl. "Let me make it."

"I don't know how a score board looks," interrupted John.

"I can't tell you, but I can draw one on the board," answered John. "My dad showed me how to make one."

"Oh, do! do!" said Kenneth quickly.

(John worked out the score board shown on page 15 on the blackboard.)

"Each time you play, you have to put your score right under your name, and at the end of the game, the total score is to be written at the bottom after the words: 'Total Score,'" explained John.

"What does total score mean?" asked Iona.

"It means all you make in the whole game," answered John proudly.

(The score board was then approved by the group.)

"You sure can draw," whispered Iona to John.

"Just look here, Miss Burke, all the paint is off this Roly Poly," exclaimed Iona. "May I paint it?"

"Shucks, you can't paint it," objected Billie. "They're all colors."

"Well, I guess I can, smarty," interrupted Iona. "I painted my mamma a vase in all colors."

"All right, Iona," agreed Miss Burke. "The Roly Poly does need a new dress, doesn't it?"

"Sure, I'll paint it at the next Hand Conference," remarked Iona (on placing the Roly Poly on the triangle).

"Now, let's get busy," exclaimed James (with a business-like air). "What do we do first?"

"First thing we'll have to do is to draw our triangle," suggested Billie. "And I'm what can do it."

"Sure," agreed Neva.

"Another thing we have to do is to mark off our bowling lines," added Fred. "I'll make them. I just like to measure."

"We'll have to write the score value on each bowling line before we can play," remarked Lonnie.

"I'll do that."

"Yes, and we'll have to place the Roly Polys on the triangle," suggested Christine. "You do that, Iona."

"I sure will," agreed Iona.

"There's the score board too," interrupted Bobby. "John, you make it."

"That's just what I wanted to do," shouted John. "I'll have it ready by the time Christine gets the Roly Polys on the triangle."

"The next thing we do is to bowl at the Roly Polys, isn't it?" queried Carl. "I can't think of anything else to do."

"You're right, Carl," agreed Jennie.

DATE:.....

PLAYERS

James	Christine	Lonnie	Jennie	Jimmie	Iona	Carl	Billie	Neva	Kenneth	Mary	John
TOTALS											

"Oh! We've forgotten something," exclaimed Jimmie. "We'll have to put our rubber balls in the little box on the first bowling line."

"Well, I'd think so," added Jennie. "We do that just as soon as we mark off our bowling lines."

"Gee!" interrupted Kenneth. "The last thing we do is to add our scores. That's how we'll find out who won the game."

"Oh, goody! goody! we are ready now!" yelled John (jumping up and down). "Every fellow choose his bowling line and bowl in his turn."

III. Execution. "James, hurry up," cried Lonnie. "I want to hit a Roly Poly from this farthest line so bad I'm about to die."

"Aw, go on, you can't hit one from there," answered James.

"I'll show you," answered Lonnie, bringing down one Roly Poly.

"Three," he called and ran to the scoreboard to put it down.

(They all frequently changed their bowling line during the game, which in no way interfered with its progress.)

"Oh, look," exclaimed Lonnie excitedly. "I brought down two Roly Polys out of three bowls."

"My time next," interrupted Neva.

"Five!" yelled Lonnie as he ran to the score board.

"Gee, I hit three," said Neva. "Oh me! I wish I had been on the second line, it would have counted so much more."

"What's your score?" retorted John.

"Three!" yelled Neva, running to the score board.

(But when she went to the score board to write it down, she made the three backwards. They all laughed and Neva almost cried.)

"I'll help you," encouraged Miss Burke.

(Neva learned to make a good three and went skipping back to the game. On and on they played until the warning gong sounded.)

"Come on, let's add our scores," called James.

"Shucks! I'd like to know how to add my scores," remarked Christine. "I'd like to know if I made as much as Neva."

"Well, I guess you didn't," interrupted Neva. "My score is ten, see?"

"Say, Miss Burke, won't you show me how to add my scores?" queried Christine.

"Sure," replied Miss Burke. "I'll help you at the next conference."

"Oh, John, you beat!" said Neva. "I can tell from all those big figures."

"I believe I did," John answered excitedly.

"Miss Burke, I can't hold all of mine in my head," called Jimmie. (She assisted pupils when needed in adding their scores.)

"John won! John won!" they called cheerfully and good-naturedly.

"Gee, I'd like to keep a record of our scores," remarked Billie (on taking his place on the bowling line).

"Well, silly, why?" interrupted Mary. "Who cares for the old scores anyway, I don't."

"Why, I can tell who wins the most games," explained Billie. "I'm going to make a score booklet to keep our scores in, just watch me."

"Sure," agreed John. "I'll make one too."

"All right," remarked Miss Burke. "Let's wait till we finish our game."

(The table on page 18 shows the score made by the pupils.)

IV. Judging. "Well, you didn't beat me much anyhow, did you John?" remarked James. "If we had had a few bowls more, I might have tied you. Anyhow, I made something every time. It's all in knowing how to roll the balls. I'll bet you have been practicing, John."

"Sure, I have," said John. "I practiced rolling balls at home last night, see?"

"Mary, do you know you made the lowest score?" interrupted Carl (in comparing the scores of the players). "I know, you didn't try."

"I don't care, I don't like the old game anyway," retorted Mary. "I can beat you telling stories, I'll bet."

"I think I can make a better score next time," exclaimed Neva. "Anyhow, I know better how to add the scores."

"Me, too," said Jimmie. "But I sure was out of luck. Those old Roly Polys acted just like they were nailed to the floor every time I tried to hit them."

"I think I'll know better how to throw my balls next time," suggested Carl. "A lot depends upon that."

"Some of the girls didn't stand with their toes on the line," criticised Kenneth. "I saw Neva with her whole foot over the line."

"I think I'll try the third line next time," remarked Jimmie. "It takes so long to make a good score on the first line."

ROLY POLY SCORE

DATE: Tuesday, March 15.

James	Christine	Lonnie	Jennie	Jimmie	Iona	Carl	Billie	Neva	Kenneth	Mary	John
1	0	2	1	1	1	1	1	1	1	0	3
1	1	3	1	1	2	1	1	1	0	1	2
2	1	3	2	1	2	1	2	2	1	0	3
3	1	4	1	1	0	0	0	2	2	0	3
1	0	0	0	0	1	1	1	2	0	1	2
1	1	1	0	1	1	2	1	1	1	0	3
1	0	2	1	2	0	0	0	1	1	0	2
TOTAL SCORE: 10	4	15	6	7	7	6	6	10	6	2	18

"Yes, and you won't make anything," objected Fred. "I can bring down a Roly Poly every time on the first line."

"I can, too," retorted Jennie. "But it doesn't count much."

"Shucks, it counts more than missing all the bowls," argued Fred. "You'd never hit a Roly Poly from that back line."

"You just think so," broke in Jennie. "If I hit only one I'd make as much as you'd do with three bowls on the first line, see?"

"You would have done better, Carl, if you had rolled your balls from the bowling lines," suggested John. "You ought to practice rolling your balls."

"That's right," interrupted Christine. "I had the same trouble —seems I just had to pitch them."

"I'm sure going to practice rolling my balls," remarked Carl. "I can't make a good score pitching my balls at the Roly Polys."

"Me, too," agreed Christine. "It's all in knowing how to roll your balls."

"Miss Burke, may I practice rolling my balls at the Roly Polys?" queried Carl. "I just can't roll them."

"When?" asked Miss Burke. "You know it's time to go home, don't you?"

"Yes," replied Carl quickly. "But I want to practice rolling my balls anyway, mamma won't care."

"All right," agreed Miss Burke. "Put the Roly Polys away when you are through."

"Gee, Miss Burke, just see my balls roll," exclaimed Carl (on rolling his balls toward the Roly Polys). "I'll put the Roly Polys away, Miss Burke."

V. Leading on Projects.

1. How Bobby added his Roly Poly scores.
2. How to play Ten Pins.
3. How John made his score booklet.
4. How Iona painted the Roly Poly.
5. How Billie learned to write his Roly Poly scores.

2. Child Growth and Purposeful Activity. Study of any instance of activity reveals many elements involved therein. There are, in the instance of Roly Poly, the balls, the triangle, the schoolroom, the score board, the ruler, the chalk, the rules of the game, the bowling lines, the children, the teacher, bowling at Roly Polys,

recording scores, adding scores, writing names of players on score board, etc. These elements may be classified into two inclusive groups. For instance, balls, triangle, schoolroom, score board, ruler, chalk, rules of the game, bowling lines, children, teacher, etc., may be classified into one group, while bowling at Roly Polys, recording scores, adding scores, writing names, making the triangle, communicating scores, making score board, etc., may be classified in another. Psychology usually interprets the former in terms of *stimuli* and the latter in terms of *responses*. Other terms are given to these. Sociology, for instance, usually interprets them in terms of social environment and the individual. Any activity thus examined reveals two essential forces at work: (1) environmental stimuli; and (2) individual responses.

These forces interact in two ways. The stimulus interacts upon the response and the response interacts upon the stimulus. In the instance of Roly Poly, the stimuli of balls, triangle, Roly Polys, score board, etc., produce varied responses while the responses bring about many changes in the stimuli. The stimuli of chalk, ruler, schoolroom floor and picture of a triangle, for instance, bring about a change in response in case of most children engaging in this game for the first time. The children can probably make lines. This new stimulus gives a new direction to this response, namely, the response of making the triangle. The same is true in case of the responses involved in writing numbers, bowling at Roly Polys, adding scores, or in reading the rules of the game. So much for changes in response. Let us consider the changes in stimuli. In addition to the change in response in the instance noted, the stimulus is likewise changed. The response in making the triangle changes the stimuli of chalk, ruler, floor, into a new stimulus, namely, a

large triangle on the floor. It is no longer these separate stimuli, but a new stimulus is created, the triangle for Roly Poly, The same might be said of the other stimuli, such as, for example, construction of the score board, rules of the game, bowling lines, etc., etc. In this sense, response changes its corresponding stimulus, and the stimulus changes its corresponding response. Both undergo change simultaneously. In other words, two kinds of changes occur as a result of the interaction of the forces in activity. One is environmental change, the other is individual change.

In case of individual change, the change abides in the neural mechanism of the child. It is a change in the functioning of its mechanisms. A child has as many neural mechanisms as things it can do. Some of these are inborn, as, for example, the sneezing mechanism; others are built, as, for example, the triangle mechanism, The change in case of the stimulus abides in the creation of a new instrument. In the illustration, it is the triangle on the schoolroom floor, or a new form of score board, or a new way of bowling. Both changes are significant. The change in the child is change in the functioning of its mechanisms. The child's conduct is changed. It can do something that it could not do before. It is in this way the child realizes its bent to grow. It is individual growth. The change in stimuli is creation of new stimuli. It is addition of bits of new social inheritance, as, for example, children inventing a new way of bowling at Roly Polys, or a new method of keeping score. It is in this way society changes. It is social growth. Growth is thus a matter of individual and social change. And both changes occur simultaneously. The child grows most if it is possible for it to change its environmental stimuli; likewise change in

environmental stimuli is greatest if change is possible in the child. Growth in either instance thus depends upon simultaneous change in both forces. Activity is thus creative. It is creative in the sense that it *changes* both the child and its environment simultaneously. It reconstructs both. And this is precisely in accord with the child's urge to grow—to create, to make, to change, to reach onwards. Any other kind of activity would not be conducive to social and individual growth. Without change in environmental stimuli, social progress would be impossible. Society would be static. Without change in response, individual growth would be likewise impossible. The individual would be static. A static society produces static individuals, or static individuals produce a static society. Change in one force is thus depended upon change in the other. Growth in this sense is *continuous* change. It is creative. It is continuous change in functioning of mechanisms in case of the child and continuous change in environmental stimuli in case of society. Activity is thus the key to growth for it is through activity that continuous changes take place in the functioning of children's mechanisms and in environmental stimuli.

3. **Education and Purposeful Activity.** Individual growth, as pointed out, is change in the functioning of children's mechanisms. It is the outcome of activity. Growing, on the other hand, is changing the functioning of mechanisms. It is the *process* of activity. Study of the instance of Roly Poly from the growing side reveals the process of activity. Firstly, the children choose the game. They choose it in preference to some other activity, because it appeals to and gives direction to their mechanisms in readiness at the particular time. Secondly, they plan the game. They decide upon the score value, the

size of the triangle, the number of bowling lines, make the triangle, score board, arrange the Roly Polys on the triangle and the like. Thirdly, they play the game. They bowl at the Roly Polys, record their scores and determine the successful contestant. Lastly, they discuss the results —they judge their mistakes and effect means for overcoming them. In fine, children have purposes—varied to be sure. They choose one from among them at different times to pursue. They plan it; they work it out; they judge their results. The outcome is growth—change in functioning of mechanisms—also conditions favorable for further growth. The *natural* process of growth is thus purposing, planning, executing, and judging. It is purposeful activity. These steps are interrelated. Purpose, for instance, guides in observation, selecting and formulating plans as well as in movements, essential in execution and success in judging. Planning likewise determines the kind of execution, and execution determines the kind of judging. Other relationships might be pointed out, but these suffice to point out the fact that the steps in the process of activity are intrinsically interrelated in every instance. Growth, in brief, comes through successful realization of chosen purposes, through creative activity. It is no different with adults. The process of activity is identical.

Education, in this sense, is through *purposeful activity,* for it is only through purposeful activity that changes in the functioning of children's mechanisms take place. It is, in other words, the process of changing the functioning of children's mechanisms. It is a *creative process.* And the educative process is identical with the growing process. It is purposing, planning, executing and judging. In this sense, education is *continuous growing.* It is creative. It is the process of continuous changing in

the functioning of children's mechanisms. And mechanism changing takes place in and through purposeful activity. Education is thus life, for life itself is purposeful activity.

4. Conventional Education. This interpretation of education contrasts sharply with the conventional interpretation. Education is quite generally interpreted as the assimilation and reproduction of subject matter isolated from the purposes of boys and girls. It considers the "mind a graveyard, spacious and receptive. Data, events, knowledge of all kinds are so often dead matter ready for interment; the lesson the burial rite, a tedious ordeal, but very necessary in respectable places; the teacher, the only live entity in the analysis, a combination of divine and undertaker; the examination, a sort of resurrection morning, where, true to form, few resurrect." In this sense, education is assimilation in study and reproduction on examination or class recitation of facts, as, for example, geographical facts, historical facts, grammatical facts, and the like. It is a study of products. The child is thus considered "educated" if it has covered the prescribed ground within the specified time. Education as absorption has nothing in common with education as growing. One is active, the other is passive; one is expression, the other is repression; one is doing, the other is pouring in; one is activity, the other is reproduction of facts; one is purposeful, the other is purposeless; one proceeds from an inner drive, the other from an outer drive; one is creative, the other is a study of ready-made products; one is guidance, the other is dictation; one enhances individual differences, the other retards them; one measures changes in conduct, the other measures facts reproduced; one encourages thinking, the other encourages memorizing; one makes subject-matter

a means, the other makes it an end; one considers inborn tendencies the foundations of growth, the other considers them a nuisance; one is life, the other is a preparation for life; one maximizes initiative, self-reliance, cooperation, the other minimizes these traits—in short, one makes for active, intelligent, industrious and upright boys and girls by affording them guidance in the pursuit of their own purposes (creative activity), the other makes for inactive, unintelligent, unindustrious and dishonest boys and girls by prescribing certain isolated facts to be assimilated and reproduced within a specified time (study of ready-made products). These differences are profound. They constitute the bill of particulars for the new and against the old education. They are the result of different interpretations of the aim of education. In the first instance, the aim of education is conceived to be continuous growing. It is creative education. It is continuous change in the conduct of boys and girls through continuous change in the functioning of their mechanisms. In the second instance the aim of education is conceived to be absorption of the facts. It is ready-made education. It is "covering the prescribed facts in the traditional school subjects within a specified time."

5. Conditions of Education. Purposeful activity, as pointed out, functions *par excellence* in child growth. It is the interaction of environmental stimuli and child responses. Purposeful activity thus demands provision for both of these forces. There are at least two conceptions that may be adopted in meeting this demand. One is the conception of subordinate relationship. It considers one force more important than the other. The other is the conception of coordinate relationship. It considers the forces of equal importance. The former

conception retards growth, for growth itself is the result of simultaneous change in both forces. Minimizing change in one force thus minimizes change in the other. Growth is made impossible. And this is not all. The subordinate relationship induces an opposition between the two forces. One force is set over against the other. This is typified in conventional education. The traditional school subjects are considered all important. The child is secondary. "If child nature doesn't fit the molds provided, the teacher squeezes it, jams it and prunes it, It must fit." Subject matter of the traditional subjects thus exists for its own sake. It undergoes no positive change at the hands of the child, neither does it produce any positive change in the child. Education thus becomes a forced affair. Witness the prizes, rewards, teaching devices, grades, and punishments—all devices for injecting prescribed subject matter of the traditional school subjects into the child. It fails. Education of the forced type ceases with most children at the end of the compulsory age, if not sooner. Witness the thousands of children dropping out of school at the end of the fifth and sixth years. Lincoln freed the negroes. It is time for another emancipation proclamation. It is time to free the intelligence of children from the bondage of the traditional school subjects. They should be free to realize their own urge to grow, i.e., free to strive, to endeavor, to discover, to make, to create, to reach onwards.

The first tenet of this proclamation would be that "life is the great thing after all; *the life of the child at its time and in its measure no less than the life of the adult.*" Every child thus would be assured its inalienable right to grow continuously—to make, to discover, to create, to reach onwards. The aim of education consequently would be continuous growing, for life itself is continuous

growing. It would begin at birth and extend to the grave; it would be a continuous process of changing the functioning of mechanisms. Growing—making, creating, discovering—this would be the foundation stone of the new education instead of absorption of the traditional school subjects. The second tenet would express school work in terms of the purposeful activities of boys and girls for it is only through engaging in such enterprises that boys and girls grow. They would be, in other words, afforded an opportunity to choose purposes, to actively work them out, and to judge their results. The process of education consequently would be purposing, planning, executing and judging. It would be successful pursuit of chosen purposes. It would be creative activity. The third tenet would make equal provision for both of the forces of growth—environmental stimuli and responses —for without either purposeful activity would be impossible. In the first place, children would be afforded *freedom* to respond in their own time and measure—i.e., free to make, to change, to discover, to create, to reach onwards. Their responses would be untrammeled. Freedom of response would be sacred. In the second place, the real world about boys and girls would constitute the school environment for without such, purposeful activity would be impossible. This would, for the most part, consist of games, sports, stories, natural phenomena, construction, social converse and occupations. Community life would consequently constitute the school stimuli instead of the traditional school subjects. Provision for freedom of child response, on the one hand, and community life stimuli, on the other hand, are thus the cardinal forces in the purposeful activities of boys and girls. The fourth tenet would be that teaching is *guidance*. In particular the teacher's job would be *stimulat-*

ing and directing purposeful activity. She would, in other words, stimulate and direct boys and girls in purposing, planning, executing, and judging for it is through the process of purposeful activity that boys and girls grow. In the first place, the teacher would guide boys and girls in purposing. She would enable them to distinguish fruitful purposes. She would lead them to choose gripping, practicable and "leading on" purposes. In brief, growth in this particular would be along the lines of choosing more wisely. In the second place, she would guide boys and girls in formulating plans for realizing their chosen purpose. More specifically, she would help them select the necessary materials, apparatus, processes, and would offer suggestions as to how they might best use them. In this connection, she would be especially concerned in boys and girls *finding* and *learning* those processes, tools, and materials that are essential in successful realization of their chosen purpose. Growth thus would be along lines in finding and learning *means* essential in successful pursuit of purposes. In the third place, the teacher would guide boys and girls in executing their plan. In this particular she would afford them opportunity to *actively* work out their plan in the most effective manner. She would be especially concerned in successful execution on the part of boys and girls for success here provides the satisfaction so essential in growth. In this particular, growth would be along the lines of *efficiency* in *use* of means essential in successful realization of purposes. In the fourth place the teacher would guide boys and girls in judging their finished products. She would offer suggestions where needed in criticising their finished product in light of their purpose. She would be especially concerned in boys and girls finding and correcting their shortcomings.

Growth in this particular would be along lines in discovering and eliminating weakness found in selecting, learning, and using means essential in successful realization of chosen purposes. Guidance in these particulars are thus the essence of teaching—stimulating and directing purposeful activity. It is furthering, in the words of Professor Dewey, the *freest and completest* interaction between the cardinal force of growth—child responses and community life stimuli and this is the *function* of the teacher for it is only through this process that boys and girls grow.

Education thus is continuous growing of boys and girls, for, in the words of Lowell, "every clod has an instinct within it that *reaches and towers.*" And it is the peculiar function of the school through its agencies to guide this instinct's "climb to a soul in grass and flowers." The school can perform this service by providing for *freedom of child response, community life stimuli, and guidance*—the divine rights of childhood—for without these education is impossible.

FURTHER DISCUSSION

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CHAPTER II

THE NATURE OF GROWTH

1. **Multiple Action and Change.** In the instance of Roly Poly the conditions necessary for action of many neural mechanisms were inherent in the situation. In the first place, many mechanisms were in readiness to respond in this instance at one and the same time. There were, for example, the communicative mechanisms, readiness to communicate scores, to express delight at successful bowls, to advise others how to play, etc. Then there were the manipulative mechanisms, readiness to place the Roly Polys on the triangle, to draw the bowling lines, to make the score board, to record scores, etc. Another marked group of mechanisms in readiness were those involved in finding out how to draw a triangle, how to keep score, how to arrange the Roly Polys on the triangle, how to bowl at the Roly Polys, etc. Then, too, there were mechanisms in readiness to walk to the bowling line, to bowl at the Roly Polys, to walk to the score board, etc. In fact the *whole* child tended toward action in this instance. A multiple of mechanisms were, in other words, in readiness to respond at one and the same time. In the second place, this instance involved a multiple of interrelated stimuli. There were for example, the Roly Polys, the triangle, the bowling lines, the score value, action of the teacher, failures and successes, action of the children, approvals and disapprovals and dozens of others. It was, in other words, a veritable network of

stimuli acting simultaneously upon the receiving ends of the children's mechanisms. Thus the two basic conditions necessary for action of many neural mechanisms —multiple readiness and multiple stimuli—were inherent in this situation and for this reason many mechanisms functioned simultaneously. Multiple changes inevitably ensued in the sense that changes in the functioning of many neural mechanisms occurred in the process. Many mechanisms were changed. They functioned differently thereafter. The children in this instance grew along many lines in the sense that changes in the functioning of many mechanisms took place at one and the same time.

2. **Changes in Drive and Response and Growth.** Multiple readiness and multiple stimuli inherent in the foregoing instance brought about, as we have seen, a change in the functioning of many neural mechanisms. The change consisted of strengthening, weakening, and making neural mechanisms pertinent in this situation. But what does the change involve in either one of these cases? What does it include, for example, in the strengthening of a particular mechanism, say the bowling mechanism? Strengthening of the bowling mechanism in this instance included two interrelated changes in its functioning. In the first place, it possessed an increased drive to respond along the same or similar lines as a result of its action with satisfaction at the time. This drive to response was a matter of readiness in the bowling mechanism to discharge its energy more readily along a particular line rather than along any one of several others. Action with satisfaction thus increased particularization of readiness in this instance in the sense that readiness to discharge energy along any one of several lines was changed to a greater readiness to discharge

energy more definitely along a particular line. This change to a more particularized readiness modified the functioning of the bowling mechanism in the sense that its energy was more ready to discharge in the direction of its stimuli. In consisted, in other words, of a greater drive of this mechanism to respond in the direction of the stimuli involved in the situation. The mechanism possessed in this sense an increased drive to respond to its stimuli. It could have possessed a lesser drive to respond. If annoyance should have accompanied its action such would have been the case for particularization of readiness in this instance could not have taken place under such conditions. But action with satisfaction prevailed in this instance and for this reason particularization of readiness ensued. The mechanism possessed an increased drive to respond in the direction of its stimuli as a result. "Set," "attitude" or "disposition" is the term quite frequently given to this drive. The point at issue in my terminology is an increased particularization of readiness in a mechanism to respond in the direction of particular stimuli. Change in this respect changes the functioning of a mechanism for the kind of action ensuing depends directly upon its drive to respond or not to respond in the presence of particular stimuli. Drive, in this sense, controls the voluntary functioning of mechanism in the sense that a mechanism functions inevitably along the line of its readiness.

In the second place, the bowling mechanism possessed a greater precision of response, as a result of its action with satisfaction. There existed at the time a degree of linkage between its response and the stimuli involved in the situation. This linkage made it possible for the energy of the mechanism to discharge into a particular muscle rather than into any one of several. In this

sense, precision of response is discharge of energy into a particular muscle when released by certain stimuli. It is, in other words, a particular response to a particular stimulus. It is a linkage established between a response and a stimulus. Action of the bowling mechanism, in this instance, increased the precision of its response for in accordance with Thorndike's Law of Effect, "a modifiable bond is strengthened according as satisfaction attends its exercise." Similar results would be equally true in all subsequent action with satisfaction. Precision of response, in other words, increases continuously through action with satisfaction. The bowling mechanism thus underwent a change in the precision of its response as a result of its action with satisfaction. Its precision was greater in the sense that its response followed the stimulation more promptly or more definitely. It is in this fashion that particular responses are linked to particular stimuli.

The bowling mechanism might have possessed a lesser precision of response as a result of action in this instance under different conditions. If annoyance should have accompanied its action such would have been the case for in accordance with the Law of Effect, "a modifiable bond is weakened according as annoyance attends its exercise." But action with satisfaction prevailed in this instance and for this reason an increase in precision of response ensued. The mechanism possessed, in other words, a stronger connection between its stimulus and response as a result of its action with satisfaction. "Habit," or "skill," is the term usually given to this condition of mechanism. Whatever terminology is employed the point at issue is the change in precision of response of a mechanism as a result of its action. Change in this respect changes the functioning of a mechanism

on subsequent occasions for the kind of action ensuing depends directly upon the degree of the connection existing between particular responses and particular stimuli. Precision of response in this sense controls subsequent action of a mechanism for a change in this respect changes its functioning.

The bowling mechanism thus underwent two fundamental changes in its functioning as a result of its action with satisfaction. In the first place, an increased drive to respond in the direction of the stimuli involved resulted. A greater readiness existed in the mechanism to discharge its energy in the direction of stimulation. Particularization of readiness was along the lines of the stimuli involved in the situation. In the second place, an increased precision of response to the stimuli in this situation resulted in the sense that the energy of the mechanism discharged more definitely into particular muscles. A stronger linkage existed between the response and its stimuli. Changes in these traits constitute the changes in the functioning of any particular mechanism whether it be strengthened, weakened, or newly made, for strengthening is facilitating these changes, weakening is retarding them, and making is originating them in the first place. In this sense changes in the functioning of a mechanism are plural. They include in every case a change in both its drive and response. And these changes take place simultaneously. Action of a mechanism in the direction of its drive changes its response. Without drive action with satisfaction would be impossible and, for this reason, change in response could not take place. On the other hand, action of a mechanism in a particular direction changes the drive to respond along that line for *successful* action along a particular line brings a particularization of readiness to respond

along that line. Without response increased particularization of readiness could not take place for it depends in every instance upon response. Response, in this sense, is basic in changing the drive of a mechanism to respond in a particularized direction. The two changes are thus interdependent and are inseparable. They are part and parcel of the same thing, namely, change in the functioning of a mechanism. And growth is this change. It involves in every instance simultaneous change in drive and response.

3. Growth in Terms of Primary and Concomitant Responses. Kilpatrick analyzes growth in terms of primary and concomitant responses. "Primary responses refer to all the learning that belongs closely to the thing immediately under consideration. If I am making a dress, then the primary includes all the learning that comes from the actual making, such as increased skill in planning and cutting. . . . The concomitant leanings grow (in part) out of the dress-making, but do not belong so closely or exclusively to the dress as do the primary. I say thus, 'I see it pays to be careful.' I learned this, perhaps, in connection with making the dress, but it should remain with me as an ideal that will reach beyond dress-making. . . . Prominent among concomitants are personal attitudes, attitudes toward the several subjects of study, attitudes toward one's self, such as self-reliance or pride or humility."

Primary responses in this sense include action of all the specific mechanisms inherent in dress-making. They include in the first place, mechanisms involved in choosing appropriate materials (cloth, ribbon, sewing thread, and buttons); selecting proper tools (scissors, thimble, measuring tape, needle, and laundry irons); and in discovering relevant processes (designing, measuring, cut-

ting, sewing, and pressing). In the second place, they include mechanisms involved in determining the exact amount of each kind of material, proper use of necessary tools, and efficient doing of the different processes. Concomitant responses, on the other hand, include all the attitudes intrinsically involved in making the dress. They include attitudes toward putting forth effort in choosing appropriate materials, tools, and processes; and attitudes toward securing the exact amount of each kind of material, proper use of each tool, and efficient doing of the different processes. The concomitants are thus in the direction of the primary responses. They are characteristics of the mechanisms inherently bound-up in dressmaking.

This interpretation of growth in terms of changes in primary and concomitant responses is synonomous with the interpretation of growth as simultaneous change in drive and response. Primary responses include all mechanisms relevant in the consummation of a particular enterprise. Response, on the other hand, connotes action of such mechanisms. Concomitant responses are attitudes disposing the child toward consummation of a particular enterprise. They are in this sense synonymous with the drive of an aggregate of mechanisms to respond in the direction of particular stimuli. Primary and concomitant thus are terms describing simultaneous change ensuing from the action of mechanisms. The former directs attention to change of response as a result of the action of a mechanism with satisfaction; the latter to change of its drive as a result of successful response. In this sense these terms connote the dynamic nature of a functioning mechanism. They are for this reason helpful in distinguishing simultaneous changes inevitably ensuing from a mechanism in action.

One further point perhaps should be emphasized in this connection. In some instances primary responses seem to be interpreted as one set of independent mechanisms and concomitant responses another set. The interpretation seems to further convey the idea that each of these sets are built independently of the other. If such is the interpretation of this terminology, it misses the interpretation set forth in this discussion, for it is very obvious that each and every mechanism possesses in some degree the idea implied in each of these terms. In fact every mechanism has its own particular concomitant in the sense it possesses drive to respond or not to respond to particular stimuli. The sum total of all these particular mechanism-concomitants is what constitutes the general tendency or "set" of life if one wishes to distinguish such a term. "Set," "attitude," or "disposition" is the term given quite frequently to drive of an aggregate of mechanisms to respond in the direction of particular stimuli. The same is equally true in the case of primary responses. Each and every mechanism in fact is primary in the sense that it possesses a particular response to particular stimuli. It possesses, in other words, a connection between particular stimuli (button, needle, thimble, thread, and dress) and a particular response (sewing on the button). Because of this connection it is possible for the mechanism to respond with degree of precision to the stimuli. This connection in action is the primary response and is a characteristic of all mechanisms. The sum total of all these connections makes up one's proficiency in consummating particular enterprises. "Habit," "skill," "knowledge" are the terms usually thought of in this connection. The point to be observed in this connection is that primary and concomitant responses are characteristics of each and every

mechanism, and changes in these responses constitute changes in the functioning of mechanisms. They constitute growth. This interpretation of changes in the functioning of mechanisms in terms of changes in primary and concomitant responses makes explicit in the first place the nature of growth. It points out specifically that growth consists of changes in primary and concomitant responses. It is continuous change in conduct of boys and girls. In the second place, it explains how growth takes place. It points out particularly that changes in primary and concomitant responses along a particular line takes place through the functioning with satisfaction of an aggregate of children's mechanisms.

4. **Traditional Interpretation of Growth.** This interpretation of growth contrasts sharply with the traditional interpretation in at least three respects. In the first place the traditional interpretation analyzes growth into two somewhat separate and independent groups. It assumes that "attitudes," "ideals," or "dispositions" represents one group while "habit," "skill," and "knowledge" represent another. In the second place, it assumes that each of these groups can be built independently of the other. It assumes, for example, that "attitudes" can be built independently at one time through one kind of activity and "habit" and "skill" at another through a different kind of activity. In the third place, it considers one of the groups of more importance than the other. It looks upon "knowledge" and "skill," in most instances, as all important while "attitudes" are considered quite secondary. The traditional interpretation thus assumes that growth falls into two somewhat disparate groups, that each can be built independently of the other, and that one is of primary importance and the other is of secondary importance.

In this sense the traditional interpretation of growth is wholly at variance with the interpretation advocated in this discussion. In the first place, changes in a mechanism are unified. "Attitude," "habit," "skill," and the like are all characteristics of any particular neural mechanism. Every mechanism as a matter of fact possesses all in some degree. In the second place, changes in a mechanism are built simultaneously. "Attitude," "habit," "skill" are all built at one and the same time for the good or bad. They are intrinsically interrelated and interdependent in the building. In the third place, changes in a mechanism are all of equal importance. Without "attitudes" the building of effective "skills" is impossible and vice versa. They are coordinate in every instance. Short circuiting in one short circuits the others.

Current practice of the traditional interpretation of growth reveals its absurdities, Some school enterprises are designed and prescribed as attitude builders, as, for example, courses in morals, patriotism and community ideals, and the like. Others are designed and described as habits and skill builders as, for example, courses in sanitation, reading, composition, handwriting and the like. The former subjects are taught independently of the latter and vice versa, since one is supposed to build one kind of neural bonds while the other is supposed to build another kind. And this is not all. Morals, patriotism, community ideals have a special period on the daily program for their building, while sanitation, reading, composition have another period. In the former the teacher attempts to build attitudes independently of the latter, while in the latter she attempts to build habit and skill independently of the former. Then, too, the supposedly disparate groups receive different emphasis. "Knowledge," "skill," and "habit" receive in practically

all instance a disproportionate amount of the time. In many instances no attempt is made whatsoever (however absurd) to develop attitudes. All current examinations reveal this fallacy. Practically all seek to measure abstractions—mere "knowledge" and "skill." Even the supposed "scientific" tests and scales commit the same blunder. As a result, emphasis is entirely focused upon the building of knowledge and skill to the neglect of building attitudes. Such is impossible. The result of this practice is appalling. Every school and community survey reveals this fact. Boys and girls in practically all instances fall far below expectations in "attitudes" as well as "knowledge," "habit," and "skill." They are thus the victims of the false doctrine of disparate changes in growth, separately built, and of unequal importance.

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CHAPTER III

THE CRITERIA OF GROWTH

1. **Meaning of Principle.** *Dominance* in transmission of particular characteristics from parents to offspring is a principle. Mendel's attention was attracted to the great variation among his garden peas. There were tall plants and short ones; plants with white flowers and plants with colored flowers; in some plants the seeds were yellow, in others they were green; some seeds were smooth, others were wrinkled. These variations suggested to Mendel experiments with garden peas. Fixing his attention on a single characteristic at a time, he crossed garden pea-plants that were different. He crossed, for example, green-seeded plants with yellow-seeded plants; tall ones with short ones; hairy ones with smooth ones, and so on for all the pairs of differences. The experiments revealed interesting results. He found for instance, where green-seeded plants were crossed with yellow-seeded plants, the seeds in the next generation were all yellow; where tall plants were crossed with short ones, the offsprings were all tall; where smooth-seeded plants were crossed with wrinkled-seeded ones the offsprings were all smooth; and so on for all the different pairs. Mendel found this to be the rule with all the different pairs. This fact he called the *principle of dominance*. It explains the behavior of unit characteristics in process of transmission. It explains that where

two characteristics of a pair meet in the offspring one dominates over the other as, for example, the yellow-seeded plants in the yellow-green-seeded cross. Yellow is the dominant characteristic in this instance while green is recessive.

Since the principle of dominance explains the behavior of unit characteristics in the process of transmission, it abides in the process of heredity. It was not manufactured; it was discovered. It explains to a certain extent the process of heredity and suggests how the process may be controlled and directed by intelligent action. It is the *modus operandi* of the reproductive forces of nature. In this sense, a principle is nature's mode of operation. It is functional. *It explains how a process is carried on.* And this is true of all principles. It is through their discovery and use that physical and biological forces of nature are guided to fruitful outcomes. "We conquer nature only by obeying her," is Bacon's way of interpreting the same fact.

2. Meaning of Educational Principle. Activity is a principle of growing. It explains a phase of the process of changing the functioning of mechanisms in boys and girls. Changes in the functioning of mechanisms are the resultant effect of mechanisms in action—of responses to stimuli. They are the changes ensuing in the connecting neurones. Activity in this sense explains a phase of mechanisms changing, for it is a mechanism in action. It explains that the action of mechanisms makes or modifies neural connections. Since education is continuous growing—continuous changes in the functioning mechanisms of boys and girls—the principle of activity is an educational principle. And it is typical of all educational principles.

Educational principles, then, exist in the process of

growing in boys and girls. They function in and are derived from this process. They are discovered; never invented. They constitute nature's *modus operandi* in child growth. They are functional. They explain nature's process of growing in boys and girls. "Know Nature" thus is as valid to-day as it was at the time of Rosseau, for it is the *source* of all educational principles.

3. Conventional Interpretation of Educational Principles. This interpretation of educational principles is in sharp contrast with the usual interpretation. "The formal definition has no place in the primary grades," "the causal factor is quite as important as the place factor in geography," "old facts should be recalled before new facts are presented," "interest should be aroused before presenting new materials," "the primary period is the drill period," "acquisition of new materials depends upon skill in presentation," "use of objective material should be used in arousing interest in new facts," "skill in questioning is essential in presenting new facts," "new facts should be associated with old," "thoroughness of drill is essential in mastery of subject matter," and the like are typical statements found in educational books interpreted as educational principles. These are misnomers. In the first place, they exist outside of the process of growing. They are external to education. They exist in ready-made subject matter. In the second place, they explain the presentation of ready-made subject matter. They explain how such subject matter may be assimilated and reproduced. Such so-called "educational principles" deal exclusively with the organization, presentation, and reproduction of the traditional school subjects. They have no bearing whatsoever on the process of growing. They are external to it. If the process of growing does not fit the mold provided, it is made to

fit. If it cannot be made to fit effort is directed toward the invention of a new mold. And this accounts for much of the effort in education to-day. Witness the many educational devices.

These differences are due to the interpretation of educational principles. Educational principles that explain the process of growing in boys and girls function in education as continuous growing—continuous change in conduct of boys and girls. "Educational principles" that explain the organization, presentation, and reproduction of facts function in education as absorption of the traditional school subjects. The principles of one abide in and explain the process of growing in boys and girls; the "principles" of the other abide in and explain the organization and reproduction of ready-made subject matter.

4. The Criteria of Growth. The principles of growing, in this sense, are the criteria of growth. They measure, in the first place, the degree in which growth takes place in any instance. They measure its quality for the outcome of any instance of learning is always conditioned by the degree to which the principles of growing operate at the time. Then, in the second place, they explain the process of growth. They explain the child's mode of learning. The principles of growing thus function genuinely in diagnosing growth for they measure the quality of its outcome and explain its process. They are, in this sense, the criteria of growth, and are, as we shall see in succeeding discussions, activity, goal, drive, success, and "leading on."

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CHAPTER IV

THE CRITERION OF ACTIVITY

1. Dynamic Nature of Child. One of the most difficult, if not impossible, things to find in the world is an inactive boy or girl. Children are by nature dynamic. They crave expression in multitudinous ways. It may be, for instance, playing with things, finding out things, enjoying things, or constructing things. In any event, the bent is to create, to make, to discover, to reach onwards, to grow. This dynamic nature of boys and girls is no exception; it is rather the rule of all things. It is a biological fact. It is the essence of life itself. Psychology interprets it, in the case of children, in terms of neural mechanisms leading on in many different directions of activity, all craving exercise of some sort. Some act; others follow. Which of the mechanisms shall be in action, at any given moment, depends on the state of readiness of the mechanisms themselves. This readiness, of course is due to many factors. It may, for example, be due to recent action of the mechanisms themselves; the manner in which they are built; how they are connected with the outside world; or to organic conditions of the body itself. But some mechanisms are in a state of readiness at all times and for this reason the child craves action of some sort at all times. This ever readiness of the child's mechanisms to act is the *creative* urge. It is the urge to grow, to create, to discover, to reach onwards. The child is in this sense

dynamic. It is a bundle of mechanisms ever craving some sort of creative expression.

2. **Nature of Neural Mechanisms.** The simplest neural mechanism is complicated in its make-up. It has many interrelated parts. The more fundamental ones are the receiving end (sense organ), the sensory neurone, the synapse, the motor neurone, and the final discharging end (muscle). The grasping mechanism typically illustrates this organization. The receiving end involves the touch spots on the skin of the hand. The sensory neurone consists of the nerve fiber connecting the touch spots in the skin of the hand with the synapse in the nerve center. The synapse is the junction point between the sensory and motor neurones and consists of numerous threadlike nerves in contact. The motor neurone consists of the nerve fiber connecting the synapse with appropriate muscles of the fingers. The final discharging end involves the movement of the muscles of the fingers producing the act called grasping. These organized parts constitute the grasping mechanism. They make up the neural machinery of grasping. The symbol $S \rightarrow R$ is frequently used to describe the organization of a neural mechanism. The S represents the stimulus, R the response, and the arrow the neural connection between the S and R. In the instance of grasping the S represents the action of the sensory neurone and its corresponding receiving end and stimulus. The R represents the action of the motor neurone producing the muscular movement called grasping. The arrow represents the connection between the sensory and motor neurones. It is the synapse and is frequently called a "bond" or "connection." It joins the particular stimulus, say ball, with the particular muscular movement, say grasping the ball. A neural mechanism thus in terms of

the symbol S → R is the neural connection between a particular stimulus and a particular response. It involves stimulus, sense organ, sensory neurone, synapse, motor neurone, muscles, and muscular movement. Stimulus, sense organ, sensory neurone are symbolized by S, synapse by the arrow and motor neurone, muscles, and muscular movement by R. The S → R symbol thus reduces the complicated organization of a neural mechanism to a more usable term. In fact, it explains the functioning of human conduct in any instance of life.

3. Mechanism and Activity. A mechanism is in action when a disturbance (response) set up in the receiving end produces a muscular movement in its final discharging end. It is brought about by successive conduction of a disturbance (response) set up in the receiving end of a mechanism. If a stimulus, say ball, is applied to the touch spots in the skin of the hand in case of the grasping mechanism, for example, a disturbance (response) is set up in the receiving end of the sensory neurone (touch spots in the skin). This disturbance is conducted by the sensory neurone to the synapse in the nerve center. Here it passes through the synapse to the motor neurone. The motor neurone conducts it to the discharging end (muscles of the fingers). The muscles of the fingers contract and produce the movement called grasping the ball. The grasping mechanism is in action. It functions. It is in this manner all mechanisms function.

Mechanisms rarely function in single fashion. They normally function, as we have seen, in aggregate fashion. But the manner of functioning is similar whether it involves one or an aggregate of mechanisms. In one case the stimulus produces action in the discharging end of a single mechanism; in the other it produces simultaneous

action in the discharging ends of an aggregate of mechanisms. And this simultaneous functioning of an aggregate of mechanisms is activity. It is the whole child responding in a situation; not merely the functioning of single mechanisms but many mechanisms functioning simultaneously. It is not, for instance, mechanisms connected with, say, communication, exploration, and manipulation functioning separatedly. It is, on the other hand, many of these mechanisms functioning simultaneously. Activity thus is to be interpreted in terms of simultaneous functioning of an aggregate of mechanisms. Its distinguishing earmark is the whole child responding in a situation. It is situation. It is child activity.

This interpretation of activity is typically illustrated in games, say Roly Poly. Many neural mechanisms function simultaneously in this instance. There are, for example, the mechanisms connected with manipulation —placing the Roly Polys on the triangle, drawing the triangle, making the score board, keeping score, etc. Then there are the mechanisms connected with finding out things; how to draw a triangle, how to place the Roly Polys on the triangle, how to bowl properly, how to keep score, etc., etc. Another marked group of mechanisms are those connected with communication; communicating scores to each other, expressing delight at successful bowls, advising others how to play, etc., etc. Then, too, there are the mechanisms connected with walking to the bowling line, standing with feet on the bowling line, bowling at the Roly Polys, etc., etc. This does not exhaust the list; others might be pointed out such as, for example, the initiation of a "leading on" activity as, for example, making a booklet to keep the scores of successive games. But these more fundamental ones suffice

to illustrate the many mechanisms in simultaneous action in an activity. It is in other words an occupation engaging the whole child, and is by no means limited to games. The same might be equally true with children in dramatizing the Gingerbread Man, telling the story of the Three Bears, illustrating the story of Jolly Old Saint Nicholas, playing the story of the Three Blind Mice on the phonograph, enjoying the picture-story of the Three Kittens, making the kiddy car, making a doll apron, finding out how to make divinity fudge, participating in a birthday party—in fact anything that engages the whole child.

4. **Activity and Growth.** Activity, as we have seen, is simultaneous functioning of an aggregate of mechanisms. It is brought about by a stimulus setting up simultaneous action in the discharging ends of a group of mechanisms. The stimulus, "making the highest score within a certain interval," in the instance of Roly Poly set up simultaneous action in a number of mechanisms. It set up action in mechanisms connected, for instance, with manipulation, placing the Roly Polys on the triangle, drawing the triangle, keeping score, etc.; with finding out things, how to draw the triangle, how to place the Roly Polys on the triangle, how to bowl properly, how to keep score, etc.; with communication, communicating scores to each other, expressing delight at successful bowls, advising others how to play, etc.; with bodily movements, walking to the bowling line, standing with feet on the bowling line, bowling at the Roly Polys, etc. Many mechanisms thus functioned simultaneously in this instance, and many changes in their functioning inevitably resulted, for in accordance with Thorndike's Law of Exercise "when a given stimulus arouses a certain response, the connection between stimulus and that

response is strengthened by the exercise so obtained." The change, in this instance, consisted, as we have seen, of change in the children's drives and responses. In the first place, an increased precision of response to the stimuli in this instance resulted in the sense that the energy of the mechanisms discharged more definitely into certain muscles. The responses followed more definitely their stimulation. In the second place, an increased drive to respond in the direction of the stimuli involved also resulted. A greater readiness existed in the mechanisms to discharge their energy in the direction of their stimulation.

Changes in drive and response thus constitute the changes in functioning of the mechanisms. In this sense, changes are plural. They include a change in both the drive and response. And these changes take place simultaneously. They take place through activity. Functioning of an aggregate of mechanisms (activity) in the direction of their drive, changes, as we have seen, their responses. Without drive, action with satisfaction (Law of Effect) would be impossible and for this reason change in response could not take place. On the other hand, functioning of an aggregate of mechanisms in the direction of responses changes the drive for successful action along a particular line, brings particularization of readiness (Law of Effect) to respond along that line. Without response change in drive could not take place, for particularization of readiness depends in every instance upon successful response. The two changes are thus interdependent and are inseparable. They are part and parcel of the same thing, namely, change in the functioning of mechanisms. And this change is growth. It involved in every instance simultaneous change in children's drive and response along a particular line. It

takes place in and through purposeful activity, for purposeful activity itself is the functioning of an aggregate of children's mechanisms.

5. Child Activity versus Teacher Activity. Child growth demands perhaps consideration of one further point in the interpretation of activity. It is child activity contemplated in every instance instead of teacher activity. The child grows, as we have seen, through changing the functioning of its mechanisms. These changes take place in and through the child responding to community life stimuli. It is action of the child's mechanisms that produces changes in the functioning of its mechanisms, since, in the words of Professor James, "for every impression there is a corresponding expression." The same is equally true in case of teacher growing. But since the school exists to further the continuous growing of children it is the children who are to engage in activity and for this reason consummation of the school's mission demands maximum child activity and minimum teacher activity. If maximum child activity is the rule in school enterprises maximum child growth ensues accordingly; if maximum teacher activity prevails minimum child growth inevitably ensues. It is, in brief, boys and girls who are to actively participate in school enterprises—to propose purposes, to formulate necessary plans, to execute the plans, and to evaluate the results. In proportion as this is the rule in school enterprises in that proportion will children grow. Professor McMurry has in mind the same fact when he says the "pupil or student is the one that is to be taught to think—*to propose the questions as well as to find their answers*—teachers must learn to *keep still* in the classroom much more than at present, while, at the same time, stimulating activity on the part of children."

6. Child Activity as a Criterion of Growth. In judging the quality of growth, two basic ideas should be considered at this point. First, growth is change in conduct of children through changing the function of their mechanisms. Second, change in the functioning of children's mechanisms takes place only through their own activity. Growth thus depends directly upon child activity. Child activity in this sense is a criterion of growth. It explains that action of children's mechanisms changes their functioning. It thus abides in, and is derived from, the process of growing in boys and girls for it explains how growth takes place.

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CHAPTER V

THE CRITERION OF GOAL

1. **Meaning of Goal.** A mechanism is in action, we have seen, when a disturbance set up in its receiving end produces a muscular response in its final discharging end. It is brought into action by successive conduction of a disturbance set up in the receiving end of the mechanism. Two interrelated factors are involved in this conduction. A disturbance set up in the receiving end is the result of some force or agent acting upon the receiving end of the mechanism. It is a stimulus. The conduction is conditioned by the readiness of the mechanisms themselves to conduct the disturbance. It is neural readiness. A mechanism in action thus is directly depended upon (i) a stimulus and (ii) neural readiness. A stimulus is any force or agent capable of producing a disturbance in the receiving end of a neural mechanism. Neural readiness is the physiological conditions of a mechanism disposing it to conduct a disturbance.

These factors are illustrated in the instance of Roly Poly. Each child is disposed to respond in the play way. Certain of its mechanisms are ready to act. They are in a condition to conduct a disturbance set up in the receiving ends. "To make the highest score within a certain number or bowls" is the stimulus in this instance. It produces a disturbance in the receiving ends of the

mechanisms in readiness. Successive conduction of this disturbance produces action in the mechanisms involved in Roly Poly. It produces the responses called Roly Poly. Stimulus in this instance possesses two outstanding features. In the first place, it is capable of setting-up a disturbance in an aggregate of neural mechanisms in readiness to respond. It gives specific direction to an aggregate of ready mechanisms. In the second place, it guides the response of an aggregate of neural mechanisms in readiness. It determines how they are to respond.

What determines the appropriateness of stimulus in this instance is its fitness (i) to stimulate an aggregate of mechanisms in readiness in a specific direction and (ii) to guide the action of these mechanisms in this specific direction. In this sense, stimulus is a goal, for it gives specific direction to an aggregate of neural mechanisms in a state of readiness and guides the action of these mechanisms in this direction. It is both retrospect and prospect. It is prospect in the sense that action is going in a specific direction; it is retrospect in the sense that the result of action in this specific direction is surveyed. One is forward, the other is backward. The point between this forward and backward look is goal. "To make the highest score within a certain number of bowls" is an instance of goal. It is the goal in Roly Poly. It gives specific direction to an aggregate of ready mechanisms and guides the action of these mechanisms in this direction. In this sense goal determines whether mechanisms in readiness are to act and how they are to act. It is in this sense functional for it stimulates an aggregate of mechanisms in readiness in a specific direction and guides the functioning of these mechanisms in this direction. In fine, goal is a stimulus that gives specific

direction to and guides in the action of an aggregate of neural mechanisms in a state of readiness to respond. It arouses and guides action in an aggregate of ready mechanisms.

2. **Function of Goal.** In this sense goal performs two basic functions in the action of particular mechanisms in a particular way. In the first place, it defines the end of action. It tells the specific direction of response. To respond in this direction marks the end of action; it terminates the action of the particular mechanisms in the particular direction. In the second place, goal guides the process of action. It determines how they are to respond. This function of goal is concretely illustrated in the instance of Roly Poly. "To make the highest scores within a certain number of bowls" is the goal in this instance. It defines the end of action. To attain the highest score within the specified number of bowls terminates action in this instance. It is the point of retrospect. If activity continues it is a repetition of the game and involves a new goal, the old goal, or a modification of the old goal. It is then prospect. It is a new game, a repetition of the old one, or a modification of it. In any event attaining the goal marks the end of mechanisms functioning in a particular direction. In this sense, "to make the highest scores within a certain number of bowls" defines the end of activity in Roly Poly. In addition, "to make the highest score within a certain number of bowls" guides the process in its attainment. In the first place, it is the stimulating agency. It suggests means relevant in its own realization. It suggests rules, triangle, Roly Polys, bowling lines, balls, score value, recording scores, score board, chalk, ruler, measuring, bowling, adding scores, and the like. In the second place,

it is the directing agency. It directs in formulating the rules, making the triangle, placing the Roly Polys on the triangle, bowling at the Roly Polys, making the bowling lines, determining the score value, recording the scores, making the score board, adding the scores, and the like. In this sense "to make the highest score within a certain number of bowls" guides the process of action in Roly Poly.

Only as goal defines the end of activity and converts itself into a series of executable means is it goal. If it fails to give specific direction to the aggregate of mechanisms in readiness or if it fails to guide the process of these mechanisms in this direction it is in no sense a goal. Goal thus functions in the action of mechanisms. It determines whether mechanisms are to respond in the direction they are tending and whether the mechanisms themselves get in action in this direction. It functions in arousing and guiding action in an aggregate of mechanisms in a state of readiness to respond.

3. **Goal and Growth.** This interpretation of goal contemplates child goals in every instance instead of adult goals. The child grows, as we have seen, through changing the functioning of its mechanisms. Such changes take place in and through the action of children's mechanisms—through children's response along their drive. It is the goal, as we have seen, that arouses particular action in children's mechanisms and guides in the process of their action. Without goal, action of these mechanisms in this manner would be impossible, and consequently growth would be minimized. The same is equally true in adult growth. But since the school exists to further the continuous growing of children it is the children's mechanisms that are to function. Children's mechanisms

thus condition the goal. In the first place, the goal must be capable of setting up a disturbance in the receiving end of their mechanisms. It must give specific direction to these mechanisms. It must define the end of their action. In the second place, goal must be capable of guiding the process of action in children's mechanisms. It must be capable of enhancing action in relevant mechanisms and inhibiting action in irrelevant. It must direct the manner of action, it must tell how action is to proceed. In fine, goals must be capable of arousing action in children's mechanisms in a particular direction and guiding the process of action in this direction. And this demands child goals instead of adult goals. The difference is solely a matter of growth. If child goals is the rule children's mechanisms are aroused and guided in the process of action. The result is child growth for growth itself is the result of children's mechanisms in action. If adult goals is the rule the opposite prevails. In the first place, adult goals are incapable of setting up a disturbance in the receiving ends of the children's mechanisms and, for this reason, they are incapable of giving specific direction to these mechanisms. They are in other words incapable of defining the end of action in children's mechanisms. In the second place, adult goals are incapable of guiding the process of action in children's mechanisms. They are incapable of directing action in a specific direction—toward a specific end—for they are incapable of enhancing action in relevant mechanisms and inhibiting action in irrelevant ones. Goals of this kind are foreign to children's mechanisms. They are external to them and for this reason they cannot function intrinsically in their action. If such goals prevail, child growth is minimized for they fail (i) to give specific direction to the action

of children's mechanisms and (ii) to guide the process of their action in this specific direction.

Functional goals are thus significant in the continuous growing of boys and girls. Stimulation and direction of an aggregate of mechanisms in readiness is the key to growth. And this is the function of children's goals.

4. Child Goal as a Criterion of Growth. In this sense, child growing is depended directly upon the nature of goals. It is depended wholly upon goals capable of giving specific direction to, and guiding in the action of, an aggregate of child mechanisms in a state of readiness to respond. Capability of a goal to arouse and guide the action of an aggregate of child mechanisms in a state of readiness to respond, in other words, is the criterion of a goal. Goals complying with this criterion are child goals; they are functioning goals. Child goal in this sense is a criterion of growth. It explains how child mechanisms are thus aroused and guided in their action. It explains *stimulation* and *direction* of child activity. It thus abides in and is derived from the process of growing in boys and girls for it functions intrinsically therein.

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CHAPTER VI

THE CRITERION OF DRIVE

1. **Meaning of Readiness.** A mechanism is in action when, as we have seen, a disturbance set up in the receiving end produces a muscular response in its final discharging end. The factors producing this action are (i) neural readiness and (ii) stimuli. Any force or agent producing a disturbance in the receiving end of a neural mechanism is a stimulus. This stimulus becomes goal if it gives specific direction to and guides the action of mechanisms in readiness. Neural readiness is the physiological condition of a mechanism disposing it to conduct a disturbance set up in its receiving end. As Kilpatrick points out, it is "a condition of the neurones measuring the degree of its craving for activity." It marks "the degree of stimulation needed at any given time to bring about a given response." Neural readiness thus is disposition-tendency of certain neurones of the child to respond in a certain way at a particular time. It is the child disposed to respond. It is subjective in the sense that disposition to respond is a physiological condition of neural mechanisms. This disposition to respond is, as we will see, basic in the functioning and changes of neural mechanisms.

Readiness is a characteristic of all neural mechanisms —both inborn and acquired. Its degree depends upon the strength of the neural connections themselves. Oftentimes inborn connections seem to possess a greater degree of readiness than acquired ones. This is due largely to

the manner in which they are built. They are often better built because satisfaction accompanied their action. The same might be equally true, and is true, of acquired mechanisms built under similar conditions. Readiness thus is a characteristic of all mechanisms possessed by the child. Which mechanism of the child shall be in readiness at any given moment depends upon many factors. It may, for example, be due to recent action or inaction of mechanisms themselves; the manner in which they are joined together; to the organic conditions of the body itself; how they are connected with the outside world; or the manner in which they are built. The undisputable fact of readiness is ever present in some degree in some mechanisms of the child at all times and for this reason some mechanisms are in readiness for action at all times. In this sense some mechanisms of children crave action in some way at all times. It may be, for instance, playing with things, finding out things, enjoying things, or constructing things. In any event, the bent is to do something. The bent is the readiness of particular mechanisms for certain action. Its origin is to be found in the factors conditioning the physiological nature of neurones themselves.

This interpretation of readiness is illustrated in the instance of Roly Poly. Each child, with the exception of one, is disposed to respond in the play way. Certain of the children's mechanisms are ready to act. They are in a condition to conduct a certain kind of disturbance set up in the receiving ends. "To make the highest score within a certain time" produces this disturbance in the receiving ends of mechanism. Successive conduction of this disturbance produces the responses called Roly Poly. Readiness thus is a conditioning factor in the functioning of mechanisms in this instance. Its source is the mechan-

isms in stock—both inborn and acquired—of the children engaging in the game. Its origin is due to any one or all of the factors producing readiness in mechanisms. In this instance it is very largely due to the action of certain mechanisms employed in a relatively quiet activity, namely, reading stories (which immediately preceded) and the inaction of certain other mechanisms, as, for example, moving about, conversation, standing, throwing, etc.

2. **Function of Readiness.** Readiness is, as we have seen, a physiological condition of a neural mechanism to respond. It is, in other words, tendency of certain mechanisms to get in action. This tendency to respond influences which mechanisms respond and the direction of their response at any given moment. In the first place, one of the particular functions of a stimulus is to set up a disturbance in the receiving ends of mechanisms. Readiness in these mechanisms determines whether a particular stimulus is capable of setting up such a disturbance. This accounts for the fact that a child may heartily attend to a particular stimulus at one time, say a Ben Davis apple prior to luncheon, and at another time refuse to pay any attention to the same stimulus, say a Ben Davis apple immediately following a hearty luncheon. Eating the Ben Davis apple occurs only when the child is both hungry (eating mechanism in readiness) and in the presence of the Ben Davis apple. In this sense readiness in mechanisms determines what stimulus will produce a disturbance in the receiving end of mechanisms and for this reason determines the direction of response. In the second place, readiness determines which mechanisms respond. Successive conduction of a disturbance set up in the receiving end of a mechanism produces its response. Readiness thus determines the extent of con-

duction for successive conduction depends directly upon readiness in all parts of the mechanism. Unreadiness in any part thwarts conduction and thereby prohibits response of the mechanism. In this sense readiness in mechanisms determines what mechanisms get in action at any particular time.

Readiness thus functions in the action of mechanisms. It determines which ones will respond and the direction of their response. This function of readiness is typically illustrated in the instance of Roly Poly. In the first place, the mechanisms in readiness in this instance determine the direction in which they are to respond. Mechanisms involved in moving about, throwing, standing, manipulating, conversing and the like are in a state of readiness largely as a result of inaction. They are in a condition to respond and for this reason they select the stimulus. "To make the highest score within a certain interval" is the stimulus selected in this instance. It is selected because it is capable of setting up a disturbance in the ready mechanisms. It affords them a ready outlet. Readiness thus determines the stimulus in this instance and for this reason it determines the direction of response. In the second place, readiness determines which mechanisms respond in this instance. Readiness facilitates the action of those mechanisms relevant and inhibits irrelevant ones. Mechanisms involved in bowling at the Roly Polys, drawing the triangle, making the bowling lines, recording score and the like are facilitated in this instance while those involved in reading stories are inhibited for the time being. Readiness in this sense determines what mechanisms are to respond in Roly Poly. It is in this fashion that readiness in certain mechanisms determines which ones are to respond and the direction of their response at any given time.

3. Meaning of Drive. Two interrelated ideas are involved in this interpretation of neural readiness. In the first place, neural readiness contemplates some end, some goal. It is a tendency of certain mechanisms to respond in a certain direction. In the instance of Roly Poly, the throwing, walking, standing, manipulating and conversing mechanisms are all tending toward bowling at Roly Polys in such fashion as to make the highest score. They are bent, so to say, on one end. They crave action along a particular line. They urge the child on from within to respond in this direction. In the second place, neural readiness engages the whole child. It makes ready for action all mechanisms of the child pertinent in attaining the contemplated goal, and at the same time inhibits any mechanisms that might by their action interfere with attaining the goal. This is typically illustrated in the instance of Roly Poly. Mechanisms involved in standing on the bowling line, drawing the triangle, handling the balls, placing the Roly Polys on the triangle, using the ruler, drawing lines, making numbers, determining the score value, recording scores and hundreds of others are in a state of readiness. They are all ready to respond in the direction of the contemplated goal. They all urge the child on from within to attain this goal. *This inner readiness of an aggregate of mechanisms to attain some contemplated goal is drive.* It is, in the words of Kilpatrick, "mind-set-to-an-end." It drives the child on from within to attain his goal. It makes ready his inner resources for attaining the goal. The origin of drive in this instance is inner. Its source is the inner readiness of an aggregate of neural mechanisms brought about by the factors conditioning certain mechanisms to respond. It is, in the words of Woodworth, neural, energy seeking an outlet. In fine, drive is an aggregate

of neural mechanisms in readiness to respond in the direction of a goal.

4. Inner Drive and Growth. In this sense drive is inner readiness of neural mechanisms to respond in the direction of a goal. It urges the child on from within to respond. Its origin is inner. Its source is the physiological condition of the mechanisms themselves. It is *inner drive*. This is not always true. All drives do not originate in the inner readiness of neural mechanisms. Some originate from without. Their source is some outer force or agent always urging the child on to respond irrespective of readiness in mechanisms for such response. Drive in this sense is external coercion. It is a force brought to bear on mechanisms from without. *It is outer drive.*

The drives of John and Mary in the instance of Roly Poly are typical of the inner and outer drives. John insisted on playing the game; in fact he proposed the game. His mechanisms were in a state of readiness to respond along this line. He was urged on from within to make "the highest score." His drive was inner. It originated in his mechanisms. He attained the highest score. Mary, on the other hand, resisted the game from start to finish. She insisted on telling stories. The teacher reminded her she must play Roly Poly. Mary submitted to the authority of her teacher. On totaling the scores at the end of the game to determine the successful contestant, Carl remarked, "Mary made the lowest score." Mary immediately retorted, "I don't care, I don't like the old game anyway." Mary was urged on from without to attain the "highest score." She made the lowest. Her drive was outer. Its source was the teacher. These differences are the result of a difference in the origin of drive. The origin of drive in case of

John was inner; in the case of Mary it was outer. But the origin of drive is not the only difference in this instance. There is one other difference that stands out prominently. It is the number of drives working in the two instances. John possessed one drive only, the drive to attain "the highest score." His mind, so to say, was set on this particular end. Other things were forgotten for the time being. The situation with Mary was quite different. She possessed at least two drives, one to tell stories, the other to engage in Roly Poly. Her mind was thus set on contrary ends. In the first place, she was dead set against playing Roly Poly for the time being. Her mechanisms were adverse at that particular time toward this activity. In the second place, she was dead set on telling stories. Her mechanisms were in readiness for this sort of activity. In the third place, she was set on avoiding the disapproval of her teacher. She recognized the authority of her teacher and instinctively endeavored to avoid scorn or punishment by going through the performance. She thus engaged in the game as a means of avoiding this difficulty. It was merely a means for coping with an outside drive. Mary's mind was thus in a state of rebelliousness at the time. She was controlled by contrary drives, one an inner drive to tell stories, the other an outer drive to engage in Roly Poly.

The origin of drive influenced the comparative growth of John and Mary (in Roly Poly). Growth, as we have seen, is changing the functioning children's mechanisms. The point to observe is how inner and outer drives function in changing mechanisms. First, what effect do these drives have on the number of mechanisms changed in the instance? In the case of John, he was alert to all things pertaining to Roly Poly. He had an aggregate of mechanisms in readiness along this line, and for that reason

any stimulus pertaining to the game set these mechanisms in action. The stimulus of rule book, for example, brought about a study of rules. The suggestion that an older pupil was an expert in this game brought about investigation from this source. Chalk and ruler set mechanisms in action in making the triangle, score board, and drawing the bowling lines. Sight of balls and Roly Polys produced action in the throwing mechanisms. In fact many mechanisms got in action simultaneously and for that reason many were changed at the time. John acquired a change in a maximum number of his mechanisms as a result of engaging in the game. In the case of Mary, the suggestion that help might be had from an older pupil, rule book, chalk, ruler, balls, Roly Polys and the like went unnoticed except at such times as these were urged on her by the teacher. These stimuli were incapable of producing action in Mary's mechanisms very largely because her mechanisms were not and could not be put in readiness for the corresponding type of activity. This necessitated a stimulus external to Roly Poly. This stimulus was the teacher. She constituted the only stimulus capable of producing any action in Mary's mechanisms along the line of Roly Poly. Consequently only a relatively small number of mechanisms got in action—just enough to cope with the teacher stimulus. As a consequence only a few changes occurred in her mechanisms as a result of engaging in the game. A minimum number of Mary's mechanisms were changed. Her growth, in other words, was minimum along the line of Roly Poly. Second, what effect do these contrasted drives have on the degree of change in each individual mechanism? Mechanisms are changed, as we have seen, through *practice with satisfaction.* Does John practice his mechanisms? Is his practice accompanied with satisfaction?

Does Mary practice her mechanisms? Does satisfaction accompany her practice? In the case of John, practice with satisfaction is the rule. In the first place, his mechanisms are in a state of readiness to respond. The presence of the stimulus, "to make the highest score," set them in action. The action persisted until the goal is attained. This accounts for John's practice on the side at every available opportunity in standing and bowling, reading the rules, and the like. He desires efficiency along these lines. Consequently he practiced every available opportunity. Then, too, satisfaction accompanied John's practice. His mechanisms were in readiness to respond in the direction of Roly Poly. For them to respond brought satisfaction. It is an instance of the working of the first part of Thorndike's "Law of Readiness," namely, "when a bond is ready to act, to act gives satisfaction." And in accordance with the first part of Thorndike's "Law of Effect" a "modifiable bond is strengthened according as satisfaction attends its exercise." John's inner drive thus provided for maximum practice with maximum satisfaction and consequently maximum change in the functioning of his mechanisms resulted, for maximum change in the functioning of mechanisms takes place through practice with satisfaction. The situation with Mary was quite different. Practice with annoyance, in the main, prevailed in the first place, for her mechanisms were not in readiness for the Roly Poly activity. As a consequence the stimulus, "to make the highest scores," produced no action in her mechanisms and for this reason she cared nothing for proficiency in standing, bowling, following the rules of the game, and the like. She sought, in other words, no practice along these lines. She utilized her spare time for other things. What practice took place occurred as a result of the outer drive, namely,

the teacher, and it occurred only at Mary's turn in bowling. In this sense, Mary's practice was minimum in Roly Poly. And this is not all. Since her mechanisms were not in readiness, what practice she got brought annoyance. It is an instance of the working of the second part of Thorndike's "Law of Readiness," namely, "when a bond is not ready to act, to be forced to act gives annoyance." And in accordance with the second part of Thorndike's "Law of Effect," a "modifiable bond is weakened according as annoyance attends its exercise." Mary's outer drive to play Roly Poly thus provided for minimum practice with maximum annoyance and consequently minimum change in the functioning of her mechanisms took place as a result of engaging in Roly Poly.

Inner drive thus tends toward change in a maximum number of mechanisms with a maximum change in each one. In the case of John it tended, as we have seen, toward change in many of his mechanisms as a result of participation in Roly Poly. It provided readiness in many mechanisms in this instance and for this reason many mechanisms functioned at the time. Then, too, this readiness in many mechanisms to respond provided the requisite factor for maximum practice with maximum satisfaction. And this is the factor necessary for maximum change in each individual mechanism, for, as we have seen, maximum change takes place in the functioning of mechanisms through practice with satisfaction. John thus underwent a maximum change as a result of his inner drive to engage in Roly Poly. A maximum number of mechanisms were changed at the time with a maximum change ensuing in each one. Inner drive in this sense tends toward maximum growth along a particular line. It tends toward change in a maximum number of mechanisms with maximum change in each one.

The opposite result prevails in the case of outer urge. Mary underwent, as we have seen, a minimum change as a result of her outer urge to engage in Roly Poly. In the first place, a minimum number of her mechanisms were in readiness to respond along this line and for this reason a minimum number of her mechanisms functioned at the time. In the second place, this minimum readiness to respond sets the condition for minimum practice with minimum satisfaction. Her mechanisms thus underwent a minimum change, for change in each is in proportion to the amount of practice with satisfaction prevailing at the time. Outer drive in this sense tends toward minimum growth along a particular line. It tends toward change in a minimum number of mechanisms with a minimum change in each one.

The reason is obvious. John, as a result of an inner drive, was all absorbed along one line, namely "making the highest score" in Roly Poly. All of his energy, all of his inner resources, were brought to bear on this end. His attention so to say, was riveted on one thing only. He concentrated all of his power in this direction. All else for the time being was put aside. Changes in his mechanisms were as a result all in one direction. Consequently ensuing growth was unified. It was maximal. With Mary the situation was quite different. She was urged on from without to play Roly Poly. At the same time she was urged on from within to tell stories. She was thus under the influence of two drives, one to play Roly Poly, the other to tell stories. Her inner resources were, as a consequence, divided; a greater part along the line of stories; a lesser part along the line of Roly Poly. She vacillated. She attended to one this moment, the other the next. Changes ensuing in her mechanisms were thus in two divergent directions, one along the line of

story telling, the other along the line of playing Roly Poly. Resultant growth was thus divided. In this sense, Mary's growth along the line of Roly Poly was minimal for only a relatively small number of changes occurred in her mechanisms along this line because of the operation of other and different mechanisms at the same time.

The contrasts here are of extremes. They illustrate results inevitably ensuing from inner and outer drives. Most school enterprises probably fall between the two. The point at issue is that in proportion as the drive to attain a specific goal is *inner,* in that proportion does growth result. In fact anything and everything that boys and girls "hum to" is educative for boys and girls. Maximum growth along any line of endeavor is, in other words, depended directly upon an inner drive to realize a specific goal. The case of John and Mary typically illustrates this fact.

5. Drive as a Criterion of Growth. Maximal growth in this sense is depended upon inner drive. It is depended upon *all* of the inner resources of the child directed simultaneously toward one goal at a time. It depends, in other words, upon an aggregate of neural mechanisms ready to respond in the direction of a specific goal. Inner readiness of the child to respond in the direction of a specific goal is thus the criterion of an educative drive. It is wholeheartedness on the part of the child to attain a specific goal. Drives measuring up to this criterion are child drives; they are functioning drives in the growth of children. Inner drive in this sense is a criterion of growth. It explains how neural mechanisms get into action vigorously along any particular line. It explains how maximal change in mechanisms takes place. It explains how mechanisms get in action in a unified manner. It explains maximal growth. Finally, it explains how to get

child activity going in the direction of a specific goal. It thus abides in and is derived from the process of growing in boys and girls, for it functions intrinsically in growing.

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CHAPTER VII

THE CRITERION OF SUCCESS

1. **Function of Mechanisms.** In the instance of Roly Poly many neural mechanisms are tending toward simultaneous response. There are, for example, the mechanisms connected with walking to the bowling line, standing with feet on the bowling line, bowling at the Roly Polys, and recording scores. Then there are the mechanisms connected with drawing the triangle, making the score board, placing the Roly Polys on the triangle, determining the score value, formulating the rules of the game, and drawing the bowling lines. Another marked group of mechanisms active in this instance are those involved in discussing what the game is, comparing it with other games, finding out whether the game can be played, and deciding to play the game. Then, too, there are the mechanisms involved in totaling the scores, determining the successful contestant, finding successes and failures, and effecting changes in light of score result. These mechanisms are all tending toward simultaneous response for they are all in readiness for action along a particular line. They are tending, in other words, toward a specific goal, namely, "to make the highest score." They are all ready for the kind of response necessary in attaining this goal. Two factors thus determine this particular tendency. In the first place, the mechanisms themselves are in a state of readiness to respond, and, in the second place, the stimulus in this instance, "to

make the highest score," gives them specific direction. They are thus tending toward one specific goal.

In attaining the goal in this instance different mechanisms perform specialized functions. Mechanisms, for example, involved in discussing what the game is, comparing it with other games, finding out whether the game can be played and the like perform a specialized function. They initiate the goal in this instance. Similarly, mechanisms involved in drawing the triangle, making the score board, placing the Roly Polys on the triangle, drawing the bowling lines and the like perform another specialized function. They prepare for the game. They procure the necessary conditions. Likewise the mechanisms involved in walking to the bowling line, standing with feet on the bowling line, bowling at the Roly Polys, recording scores, and the like perform another specialized function. They consummate the goal. In like manner the mechanisms involved in totaling the scores, determining the successful contestant, finding out specific errors, and the like perform a specialized function. They evaluate the extent of consummation. Mechanisms in this instance thus perform specialized functions in responding in the direction they are tending. These specialized functions may be designated (following Kilpatrick) as purposing mechanisms, preparing mechanisms, consummating mechanisms, and evaluating mechanisms. The purposing mechanisms are those involved in discussing what the game is, comparing it with other games, determining whether it can be played and deciding upon the goal. They initiate the goal. The preparatory mechanisms are those involved in making the triangle, drawing the bowling lines, making the scoreboard, determining the score value, formulating the rules, placing the Roly Polys on the triangle and deciding upon a plan of bowling. They pre-

pare things necessary in attaining the goal. The consummatory mechanisms involve the actual bowling at the Roly Polys. They attain the goal. The evaluating mechanisms are those involved in totaling the scores, determining the winner, finding out successes and failures and the like. They determine the extent of realization of the goal. The specialized function of different mechanisms performed in responding in the directing of their tendency may be thus designated as purposing, planning, consummating and evaluating. These terms connote the function of mechanisms in the process of action.

2. Meaning of Success. The foregoing analysis of the specialized function of mechanisms in the process of action are intrinsically interrelated in one primary function—namely, the response of the mechanisms in the way they are tending. They are all inherently involved in achieving this function. They are the links in this function. One link is intrinsically depended upon the action of the others. Without the action, for example, of the purposing mechanisms, action of the preparatory, consummatory, and evaluating mechanisms would be impossible. The same is equally true with the other links. They are all inherently interrelated. One is directly depended upon the other. Success in this sense is effectual action of all the mechanisms involved in purposing, planning, consummating and evaluating. It is attainment of a specific goal. It is effectual functioning of all pertinent mechanisms in the direction of a specific goal. Since mechanisms perform specialized functions in the attainment of a specific goal and since these specialized functions are interdependent in their action, success is accumulative. Success in the purposing mechanisms is, in other words, prerequisite to success in the preparatory mechanisms, consummatory mechanisms and evaluating

mechanisms. Similarly success in the preparatory mechanisms is prerequisite to success in the consummatory and evaluating mechanisms. In like manner success in the consummatory mechanisms is prerequisite to success in the evaluating mechanisms. In similar fashion success in the evaluating mechanisms is prerequisite to success in the purposing mechanisms et cetera. Success in all links are part and parcel of the same thing, namely, the attainment of a specific goal. Failure in any one link blocks success in all others. Success, in fine, is effectual response of all the child's mechanisms involved in purposing, planning, consummating, and evaluating. It is effectual process in attainment of a specific goal.

3. **Success and Growth.** Complete attainment of a specific goal in this sense depends directly upon successful action of mechanisms involved in purposing, planning, consummating, and evaluating. This does not always hold true. In some instances, especially in school instances, there is considerable shortcircuiting in these links. That is, one or more of these links is taken by one person for another, as, for example, a teacher for the child. It might be any one or all of these links. Probably the most likely shortcircuiting takes place in the purposing and planning links. Teachers in many instances do the purposing for the children. In so doing they prohibit effectual action in planning, consummating, and evaluating. In many instances teachers either do the planning link or follow some text in which the plan is "ready-made." In either case action of the planning mechanisms in children is prohibited. The same might be true, and is true in many instances, in the consummatory and evaluating links. Such shortcircuiting thus prohibits success in the link shortcircuited and thereby makes success impossible in all the other links. Success, in other words, is made impossible.

And this is not all. Shortcircuiting retards growth. It retards change in the functioning of mechanisms. Changes in the functioning of mechanisms is effected, as we have seen, through successful action of mechanisms in readiness, *through practice with satisfaction.* The opposite holds true in shortcircuiting. In the first place, it produces annoyance, for in accordance with the Law of Readiness, "when a modifiable bond is ready to act, for it not to act brings annoyance." It thus makes for failure in action of ready mechanisms. Minimal satisfaction thus ensues, for satisfaction itself depends directly upon effectual action of mechanisms in readiness. In the second place failure in response and annoyance through lack of response weakens (negative change) mechanisms, for in accordance with the Law of Effect, "a modifiable bond is weakened according as failure and annoyance attend its exercise." Shortcircuiting thus retards growth for it makes success and satisfaction impossible.

Success is thus the foundation of growth. It enhances change in the functioning mechanisms. In the first place, successful action of mechanisms in readiness brings maximal satisfaction (Law of Readiness). Maximal satisfaction is thus directly depended upon successful action of all the mechanisms involved in purposing, planning, consummating, and evaluating. In the second place, satisfaction, attending the action of mechanisms strengthens mechanisms (Law of Effect). Effectual change in the functioning of mechanism (positive change) thus depends in every instance upon *practice with satisfaction.* It is in this fashion change in the functioning of mechanisms takes place. Success is thus a primary factor in mechanisms' change in growth. As Kilpatrick points out, " . . . success, satisfaction, and learning—they follow just in this way."

4. Success as a Criterion of Growth. Maximal growth in this sense is directly depended upon successful action of mechanisms involved in the attainment of goals. It is depended upon success in all the interrelated and interdependent links in the process of attainment. Success in this sense is the criterion of the process in attaining goals. Processes measuring up to this criterion are child processes for in no other way is success possible other than effectual action of all the child's mechanisms involved in purposing, planning, consummating, and evaluating. Success thus is a criterion of growth. It explains that growth takes place only in terms of successful response of mechanisms involved in the attainment of goals. It explains, moreover, that growth ensues only as successful action of the child's own mechanisms takes place in all the links involved in the attainment of goals. It explains how to secure maximal growth in the attainment of goals. It therefore abides in and is derived from the process of growing in boys and girls, for it functions intrinsically in growing.

FURTHER DISCUSSION

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CHAPTER VIII

THE CRITERION OF "LEADING ON"

1. Meaning of "leading on." "Leading on" implies the origin of a *new* activity in the process of another. The making of "score booklet" as the result of engaging in Roly Poly is such an instance. It grew out of the Roly Poly activity. It represents action of a new set of mechanisms. It was brought about as a result of the interaction of two factors inherent in this situation.

In the first place, some goals potentially possess the possibility and probability of origin of new goals in the process of their realization. These new goals originate much the same as new shoots burst forth from the main trunk of certain plants in the process of their growing. These branching shoots are the result of the action of the plant's growth. So are the associated goals. They are the result of certain mechanisms functioning in a particular direction. Roly Poly has such a goal. It inherently possesses the possibility and probability of branching goals. "Let's make a score booklet," is an instance of one of its branchings. It arose during the attainment of the Roly Poly goal. The scores achieved in this and other similar games (the result of certain mechanisms in action) suggested the need of a score booklet (new goal) to record them in so as to tell the successful contestant in successive games. This new goal served as a stimulus to arouse and guide the action of certain other mechanisms essential in its own realization.

It set up action in the mechanisms of children pertinent in choosing this goal in preference to others, in planning the making of the booklet, in execution of the plans, and in evaluating the finished booklet with the goal set up. It initiated, in other words, a new activity. In this sense the first condition of "leading on" is involved in the instance of Roly Poly. The goal in this instance potentially possesses the possibility and probability of branching goals. It prospectively leads to other and different goals in the process of its realization.

In the second place, the children in this instance possessed potentially a branching readiness in their mechanisms toward action. The mechanisms of each child were connected (as a result of heredity and growth) in many ways. The execution mechanisms, for example, were associated with many others. These associated mechanisms were, in the words of Thorndike, "neurones of secondary connections." The execution mechanisms for this reason conditioned readiness in the associated mechanisms at the time. They radiated readiness to many "neurones of secondary connections." Similarly, the secondary neurones condition readiness in other secondary neurones and so on until there existed at the time a wide spread of readiness in the children's mechanisms toward action. With this condition of the mechanisms (secondary mechanisms in a state of readiness) it was possible for the branching goal (making a score booklet) to give specific direction to and guide the action of these mechanisms along a new line. In this sense, the second condition of "leading on" was involved in the instance of Roly Poly. The children in this instance possessed at the time many "neurones of secondary connection" (as a result of heredity and growth) and for this reason there existed a branching readiness. There were many neu-

rones in a state of readiness to act. In brief, the factors inherently involved in this situation were (i) branching readiness and (ii) branching goals. These are the requisite conditions in the origin of a new activity in the process of another. They constitute the minimal factors in the concept of "leading on."

2. Variation of Factors in "leading on." Both of these factors vary. There are all sorts of degrees. In the first place, "branching readiness" is not found equally in all children; neither is it found equally in any other animals. Some children possess a greater branching readiness than others. This is due to a difference in neural organization possessed by the children. Some children possess a highly complex neural organization; others possess a comparatively narrow neural organization. In the former case, there exists many "neurones of secondary connections" (and a possibility of forming many others); in the latter there exist quite a limited number (and a possibility of forming only a limited others). The spread in readiness thus varies from a highly organized set of secondary connections to a very limited set of such connections. This difference is largely due to heredity. In one case, the child inherits a highly connected set of neural mechanisms, with a possibility of forming many others, and in the other case the child inherits a very limited connected set of mechanisms, with a possibility of forming only a limited number of others. The spread of readiness in mechanisms thus differs greatly among children. In some it is extremely branching; in others it is exceedingly narrow.

Nor is this "branching readiness" the same at all periods of life. It increases, other things being equal, with growth. The child at six, for example, has a greater

number of secondary connections than the same child at two, if conditions admit of growth. Secondary connections, in other words, are acquired through experience in addition to heredity. It is for this reason that with growth goes a correspondingly increased number of "neurones of secondary connections." The man at forty thus should be in a state of readiness to do a greater variety of things than the same individual at six. The degree of branching readiness possessed by any child at any particular period of life thus depends solely upon (i) the nature of inborn mechanisms and (ii) the nature of growth. Either condition varies in readiness. "Leading on" in this sense is limited in every instance by the nature of children's neural organization, for branching readiness depends solely upon branching neurones. With a greater stock of branching neurones, goes a correspondingly greater branching readiness and consequently a greater possibility and probability of a new activity originating during the process of another.

In the second place, there is a wide variation in the branching quality of goals. Some goals possess the possibility of leading to others and different goals in the process of their own realization; others are extremely limited in this respect. This difference is due solely to the intrinsic connection of goals. Fullest realization of some goals depends upon the realization of others. Such goals for this reason are interdependent; they are intrinsically interwoven. Their realization brings into prominence one or more of the associated goals. With other goals the reverse is more the rule. They are more or less independent. They are practically independent of others in their own attainment. Their realization leads to a repetition or stops at the point of attainment and

for this reason they are isolated from other goals. They are divorced from all others in so far as interdependency and interrelation is concerned.

Roly Poly has a goal typical of the branching goal. Its fullest realization depended upon the realization of other related goals. The making of a score booklet is one instance of the associate goals. "Making the highest score in successive games," the goal in this instance, depended upon recording the scores of each successive game; hence the origin of the associate score booklet goal. Other associate goals arose out of this instance. In point of fact, the associate goals of repainting the Roly Polys, of using ten pins instead of Roly Polys, in playing this game, of learning how to add scores, of learning how to write names on the score board did grow out of the instance at the time. Other instances perhaps might make clearer the meaning of branching goals. Christine's goal to make her doll an apron is a similar instance.* "This apron project, did, in point of fact, suggest to her the goal to make her doll a cap, the cap project suggested the goal to make a pair of doll stockings, the stocking project suggested the goal to make a doll rug, the rug project suggested the goal to make a chest for her doll clothing, the chest project suggested the goal to make her doll a new dress, the dress project suggested the goal to make herself a school apron, the school apron project suggested the goal to study the different kinds of materials and styles for making school aprons, the study of different kinds of materials suggested the goal to study the sources of these materials. Similarly, the school apron goal inherently possesses the possibility and probability of suggesting to Christine still other goals as she

* Callings, Ellsworth, *An Experiment with a Project Curriculum*, p. 321.

grows older, such as, for example, goals to make herself a school dress, to make clothing for her brothers or sisters, a study of the different kinds of materials, and styles of clothing, a study of the manufacture of clothing materials, etc. Thus is seen how the outcome of one of Christine's goals suggests and prepares for succeeding ones." The making of metal polish by the Third Group of the Experimental School is another instance of a branching goal.* "One day in discussing how to care for the cooking equipment, one of the girls suggested that the knives, forks, and spoons needed polishing very badly. Two or three of the other girls then too told how they had polished knives and forks at home. After discussing the matter, the group finally decided that they should polish the knives and forks of the school. At this point one of the girls inquired where they could get some metal polish. One of the boys stated that none could be secured at the local store, as he had tried to get some for his mother a few days ago. They were just about ready to abandon their purpose when the teacher suggested that they might be able to make some metal polish by precipitating the calcium carbonate out of Mr. Murphy's well water, the presence of which they had previously discovered. The pupils were all eager to try the experiment. With simple apparatus—a quart jar, a glass tube secured from the agricultural equipment, and lime water from Mr. Murphy's well—they proceeded to precipitate the calcium carbonate out of the water. The experiment was successful. They made enough precipitated chalk to polish the knives, forks, and spoons of the school. Shortly after finishing the project, the pupils met to discuss their experiment. In this connection one of the

*Callings, Ellsworth, *An Experiment with a Project Curriculum*, p. 329.

boys suggested that he would like to know how the rocks had been formed at the bottom of his father's well. This led to a study of the processes by which sedimentary, igneous, and other rocks had been formed; then to the uses of the different kinds of rock, the effects of these rocks upon the occupations of people—farming, quarrying, stone cutting, transportation, etc. Thus it is seen again how a rather simple goal leads boys and girls to varied lines of activity because it possesses at the outset the possibility of continuous branching action."

Learning the multiplication tables *per se,* for example, the two's, is an illustration of the isolated goal. Such a goal is typical of many goals, if such may be called a goal, pursued by school children that leads to a repetition of the same goal, namely more drill on the two's, if it leads to anything at all. It is for this reason incapable of suggesting other and different goals in its own realization. Being merely a repetition of the same goal—if it leads to any further activity—it soon becomes stale and flat—hence the demand for a prize of some sort—and boys and girls will no longer engage in it unless they are forced to do so. Its fatal weakness lies in the fact that it lacks the continuous branching quality observed in Roly Poly, Christine's goal to make her doll an apron, or in the metal-polish experiment. Other instances could be added, but these suffice to point out the fact that there is a wide variation in the branching quality of goals. They range from the extremely branching type typified by the metal-polish experiment to the extremely narrow type typified by learning the two's. One leads to other and different goals in the process of its own realization, the other leads at best to a repetition of its own realization. One is a branching goal, the other is a straight line goal.

"Leading on" is thus conditioned by the nature of

goals for the action of children's "neurones of secondary connections" depends directly upon branching goals. With goals inherently possessing this quality goes a greater possibiilty and probability of a *new*-activity growing out of the process of another.

3. **"Leading on" and Branching Activity.** Purposeful activity, as we have seen, is an aggregate of neural mechanisms functioning in the direction of a particular goal. It is cooperative action of many mechanisms in one enterprise. It is the *whole* child responding to a situation. Branching activity in this sense is action set up in one or more new aggregates of mechanisms as the result of the functioning of another and different aggregate of mechanisms. It is cooperative action of new mechanisms growing out of cooperative action of old mechanisms. It is the whole child responding in new enterprises as a result of similar responding in old enterprises. It is, in other words, the origin of one or more new purposeful activities during the process of another. Branching activity in this sense is continuous. The realization of one purposeful activity leads to another *ad infinitum*. One ever leads to another. In this sense branching activity is synonymous with leading on. "Leading on" symbolizes this quality of an activity. It is a concept connoting the quality of certain activities to "sprout" new activities. It literally means one purposeful activity ever leading on to another purposeful activity. And this is continuous branching activity.

The origin of branching activity includes the same factors involved in the origin of any activity. These factors are, as we have seen, readiness in an aggregate of mechanisms to act along a certain line and a goal capable of giving specific direction to and guiding the action of these mechanisms along that line. The difference is in

the origin of these factors. In branching activity readiness is brought about, as we have seen, by the functioning of certain mechanisms. These mechanisms condition readiness in the "neurones of secondary connection." They radiate readiness, in other words, to all associated mechanisms. Readiness in this case depends directly upon the "neurones of secondary connection." Without these secondary connections readiness along new lines would be impossible. In the second place, the goals of branching activity originate, as we have seen, in the process of the realization of other and different goals. They grow out of the attainment of others. Action of the secondary neurones in readiness to act along a new line would be impossible without the origin of new goals in the attainment of others. Branching activity thus depends solely on (i) branching readiness and (ii) branching goals. It is limited in every instance by the degree of these factors inherent in the situation. Children with limited "neurones of secondary connections" have a correspondingly limited spread of readiness along new lines and consequently have a limited possibility and probability of engaging in branching activity. The quality of children's neural organization (as a result of heredity and growth), in other words, conditions branching activity in every instance. With a greater complexity of neural mechanisms (other things being equal) goes a correspondingly greater possibility and probability of a new activity originating in the process of another. The nature of goals in like manner conditions branching activity. Goals limited to a repetition of themselves limit branching activity correspondingly. They limit it to a straight line activity. Such goals in themselves prohibit branching activity, for branching activity depends in every instance upon stimulation of secondary neurones in readi-

ness by new goals arising out of the process of attainment of another. Branching activity, in other words, is limited to the branching quality of goals. With goals inherently possessing a high degree of this quality, other things being equal, goes a correspondingly greater possibility and probability of new activity arising out of the process of the pursuit of another.

4. **Branching Activity and Continuous Growth.** Continuous growth is, as we have seen, continuous change in the conduct of children. Continuous growth takes place, in this sense, in and through action of "neurones of secondary connection," for, as we have seen, it is only in these neurones action is capable of being set up at the time of the functioning of other mechanisms. Continuous changing of mechanisms depends thus solely upon (i) branching readiness and (ii) branching goals for these are the minimal factors in the action of secondary neurones. It depends in the first place upon the secondary neurones possessed by children. It is successful action in these mechanisms that results in continuous change in the functioning of mechanisms. Without these, continuum in mechanism changing would be impossible and consequently continuous growth could not take place. And this continuous mechanism changing takes place in and through the functioning of mechanisms ever conditioning readiness in secondary neurones. Continuous growth in this sense depends directly upon the richness of branching readiness. In the second place, it depends upon the branching quality of goals. Successful action of secondary neurones in readiness depends upon the origin of new goals at the time capable of giving specific direction to and guiding their action. Without the origin of such goals, successful action of secondary neurones could not take place and consequently change in the func-

tioning of these mechanisms would thereby be hindered if not made impossible. Continuous growth in this sense depends directly upon branching goals. It depends upon the origin of new goals in the process of the attainment of another. It depends upon the richness of associated goals.

Branching activity, on the other hand, is the interaction between secondary neurones in readiness and an associate goal. It is successful action of secondary neurones. It is branching in the sense that its readiness and goal grow out of the functioning of another and different mechanism. It thus inherently involves the factors of continuous growth. It is in fact these factors operating successfully in the action of neurones of secondary connection. And this is mechanism making along a new line. It is continuous change in the functioning of mechanisms. Continuous growth in this sense depends solely upon branching activity for it is the kind of activity that makes for contininum in mechanism changing.

Branching activity in this sense makes for the worthwhileness of life. It makes it possible for the child to increasingly expand its range of activities from moment to moment, from day to day, and from year to year, for functioning along a branching line ever makes it possible to function along new and different lines. And this continuous functioning along new and different lines is what makes for the worthwhileness of life. It makes life worth living every moment, every day, and every year, for, in the words of Kilpatrick, "it increases (i) a new insight into the possibilities of situations confronting us, (ii) new inclinations correlative with the new insight and new sensitivities, and (iii) new powers of achievement corresponding to both." Nor is this all. Branching activity makes for the satisfyingness of life. In the

words of Thorndike, "there are not only neurones ready to be set in action by direct stimuli from the sense-organs, but also neurones ready to be set in action by more remote or secondary connections. For example, a baby likes not only to see a pile of blocks tumble or a wheel go around, but also to find the blocks tumbling when he hits them or the wheels revolving when he pushes a spring. Satisfaction of the second sort, is indeed, if anything, the more potent. Merely hearing the toot of a horn is a feeble joy compared to blowing it. Now 'tumbling when I hit them' 'whirling when I push,' and 'tooting when I blow' are samples of secondary connections, a step removed from mere sensations. They represent the action of the neurones concerned in the child's manipulations, those concerned in his sensations and *those concerned in connecting the latter with the former.*" Merely hearing the horn toot represents action in only one aggregate of mechanisms in the direction of a particular goal, namely, hearing the tooting horn. Satisfaction is thus limited to the action of these mechanisms. "Tooting when I blow" on the other hand represents action of different aggregate of mechanisms. In the first place "blowing the horn" involves action of an aggregate of mechanisms in the direction of a particular goal, namely, blowing the horn. In the second place, "tooting when I blow" involves action set up in a different aggregate of mechanisms as a result of action of the blowing mechanisms. They represent in this instance action in secondary neurones in readiness. Satisfaction thus comes from both "blowing the horn" and "tooting when I blow" and, as Thorndike points out, satisfaction is much more potent than satisfaction ensuing from merely "hearing the horn toot." Branching activity thus makes for satisfyingness of life since it involves action in every

instance of secondary neurones in readiness. It is typified by the action of mechanisms involved in "tooting when I blow."

5. **"Leading on" and Fruitful Conduct.** "Leading on," as we have observed, is continuous mechanisms changing; it is continuous growth. It is continual change in the functioning of mechanisms through the changing of one ever leading to the changing of another. It is growth now ever leading to more growth. As such it begins at birth and extends to the grave. It recognizes no gaps, stops, or final ends. Neither does it recognize stages of life as merely preparatory to succeeding supposedly higher stages, as, for example, childhood as a door-sill to adulthood. It is, on the other hand, continuous. It is infant growth ever leading to child growth; child growth ever leading to adolescent growth; adolescent growth ever leading to adult growth, and so *ad infinitum.* The infant, in short, must be a growing infant, the child a growing child, the adolescent a growing adolescent if growing is to ensue in the adult. And infancy, childhood, adolescence, adulthood, each of these has its own intrinsic growth. Neither is a door-sill to the other. They are all coordinate rooms in the mansion of life. Lack of beauty in one mars the beauty of the entire mansion. Richness of life thus depends directly upon richness of growth in all its periods. It depends solely upon continuous growing.

"Leading on" in this sense determines the fruitfulness of child growth along any particular line of endeavor. If growth along any particular line leads in itself to more growth in the child at the time and all whom it influences, it possesses the continuing quality and is consequently fruitful. On the other hand, if such growth in itself stops short of more growth in the child at the time, or

if it hinders growth in others whom the child influences, it lacks the continuing quality because of its inability to continue on *ad infinitum*. "Leading on" in this sense is the criterion of fruitful growth. It is growing all together. It admits activities making for continued growth in the child and all others whom it influences. It rules out activities stopping short of more growth in the child at the time, or hindering growth in others. Perhaps illustrations might make clearer the bearing of "leading on" on continued growth. The instance of Christine's making a doll apron is typical of the activities admitted by the criterion of "leading on." This activity did make for continued growth. In the first place, it led on to more growth in Christine at the time. It suggested many other and different kinds of activities, such as making a doll cap, pair of stockings, doll rug, doll chest, doll dress, school apron, study of the different kinds of clothing materials and styles, school dress, etc., etc. In the second place, it enhanced the growth of all the other children with whom Christine associated. Her friends got suggestions for making new doll apparel, school apparel, etc., that led on to further growth in them. Roly Poly and the metal-polish experiment are other illustrations of activities furthering the continuous growth of all together. Learning the two's (of the multiplication tables) *per se* is typical of one kind of activity ruled out by the criterion of "leading on." Its fatal weakness, as we have seen, is its inability to lead on to other and different activities at the time. It stops short of more growth in the children. It leads on at best to a straight line activity and for this reason is incapable of furthering the continuous growth of children at the time. "Stealing lead pencils at school," is typical of another kind of activity this criterion would rule out. Such an activity ap-

parently does lead on indefinitely to other activities, such as, for example, stealing school books, marbles, money from home, Woolworth articles, etc., etc. Its fatal weakness in light of this criterion lies in the fact that it hinders the growth of others with whom the child associates —the possessors of the stolen articles. It fails to further the growth of all together at the time. Because of this weakness its apparent "leading on" blocks itself in time. For this reason it would be ruled out by the criterion of "leading on" because of its inability to continue *ad infinitum*. Activities of this kind are quite usually designated as immoral, bad, wrong, unsocial, unethical and the like. They rightly deserve these terms provided such terms connote weaknesses in such activities to lead on indefinitely to other and different activities without retarding the growth of all together. The terms might equally be applied to the other type of "non-leading on" typified here by learning the two's *per se*. Such an activity is immoral, unsocial, bad, not because it retards the growth of associates, but because it retards the growth of the learners, the children. On the other hand, activities typified here by Christine's making her doll an apron or the metal-polish, experiment are commonly designated as moral, social, ethical, good, fruitful activities. They rightly deserve these terms provided such terms designate activities making for continuous growth (i) in the child and (ii) in all its associates at the time. Failing in either of these particulars automatically places such activities in the immoral class even though they are the proud possessors of the dignified term "moral." "Leading on" in this sense is the criterion of moral conduct, for it admits activities capable of furthering the continuous growth of *both* the child and its associates at the time. It is in this sense the criterion of fruitful growth.

6. Leading On as a Criterion of Growth. "Leading on" in this sense is a criterion of growth. It is such for two reasons. In the first place, it explains fruitful growth. It explains that growth that is fruitful continues on *ad infinitum* on the part of the child and all whom it influences. In the second place, it explains how fruitful growth takes place. It explains that such growth depends solely upon branching activity. The criterion of "leading on" thus abides in and is derived from the process of growing in boys and girls, for it inherently functions therein. It is *sine qua non* in continuous growing of boys and girls.

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CHAPTER IX

SUPERVISION AS GUIDANCE

1. Function of the School. Education is interpreted in the preceding chapter as continuous growing. It is creative. It is continuous change in drive and response of boys and girls through continuous *functioning* of their mechanisms. Since the school is an institution established by society for the education of children, its most consistent function would be to *further the continuous growing of boys and girls.* That is its chief mission. It can perform this function by providing for the conditions of education, namely, freedom of child response, community-life stimuli, and guidance.

Purposeful activity, as we have seen, functions *par excellence* in the growth of boys and girls for it is through such enterprise that changes in the functioning of the mechanisms take place. Freedom of child response and community-life stimuli are, moreover, the cardinal factors in purposeful activity. Without either, or a subordination of either, it would be impossible. In fact, purposeful activity is the interaction of these factors. Lastly, guidance is basic in the growth of boys and girls for it seeks to bring about the *freest and completest* interaction of the cardinal factors in purposeful activity. It endeavors to select, on the one hand, community-life stimuli that are stimulating and, on the other hand, to direct children's responses successfully to these stimuli. The function of guidance thus is *stimulating*

and directing purposeful activities of boys and girls. In this sense, the primary function of the school is to provide for freedom of child response, community-life stimuli, and guidance, for, on the one hand, purposeful activity and consequently growth would be impossible without freedom of child response and community-life stimuli and, on the other hand, the freest and completest interaction of these forces would be impossible without guidance. It is in this manner that the school discharges its function, namely, furtherance of the continuous growing of boys and girls.

2. **Agencies of the School.** The school is a complex institution. It has many interrelated agencies. The more fundamental ones are the teachers, supervisors, superintendent, principal, janitor, school board, school plant, and curriculum. These are agencies in the sense that they carry forward the function of the school. Continuous growing of boys and girls is the end. The school agencies are means in attaining this end.

3. **Specialized Function of School Agencies.** The school agencies have a common-end-in-view, namely, furthering the continuous growing of boys and girls. They exist for no other purpose. Seemingly this fact is not recognized in many instances as, for example, when the school board employs teachers on the ground of political, religious, propaganda, friendship, or kinship consideration. The same unpardonable sin is committed when teachers make teaching a "stepping stone," as, for example, teaching to secure money to tide over financial failure, or to secure money to study law. Teaching today is beset with this sin. Why not make medicine a "stepping stone"? There would be no difference in the sin committed in the two instances. One is as abominable as the other. Neither does the curriculum of most schools

recognize this fact. Practically all serve ends external to the growth of children. It may be in perpetuating traditional subject matter as commonly found in American schools, or it may be in perpetuating some governmental or religious policy or dogma so often found in European schools. The child in either instance is made a means to some external end. Kant's famous doctrine that the individual is the *end* is forsaken in order to perpetuate other selfish or traditional ends. These instances could be multiplied but these suffice to call attention to the fact that all of the agencies of the school are to share in the common enterprise, namely, furthering the growth of boys and girls. The child is thus the beginning, the center, and the end of all the school's agencies. If any fails to recognize this fact they have no excuse for existence. They would be a burden on the children as well as on the people who financially support the school. It might not be amiss to consider more specifically the ways in which the different agencies of the school share in furthering the continuous growing of boys and girls, since they perform specialized tasks in consummating this end.

(1) *School Plant.* The school plant's specialized function in furthering the continuous growing of boys and girls is to provide laboratories for successful pursuit of purposes. There should be a laboratory for each type of activity. This would necessitate, in case of the elementary school, a Story Laboratory, a Construction Laboratory, an Excursion Laboratory, a Play Laboratory, and a Skill Laboratory. This would require a type of school equipment adapted to *doing*—engaging in purposeful activity. Each laboratory, in other words, should be equipped with the apparatus, books, furniture, and materials suitable for carrying forward successfully the activity it is to serve. The school plant in this sense is

the child's laboratory. It provides for the tools, apparatus, books, furniture, materials, and space with which boys and girls may construct, create, and actively inquire. In this sense, the school plant performs an essential specialized function in furthering the continuous growing of boys and girls.

(2) *Curriculum.* The curriculum's specialized function in furthering the continuous growing of boys and girls is to provide for the purposeful activities of boys and girls. It should be expressed in terms of purposeful activities and should be varied so as to meet individual differences in the purposes of boys and girls. It should make provision for the natural process of purposeful activity, and should include the books, apparatus, and materials essential in carrying forward successfully the various activities. It should function as the teacher's guide in stimulating and directing purposeful activity, and should not be considered as something to be taught boys and girls within a specified time. In this sense, the curriculum performs a very necessary specialized function in furthering the continuous growing of boys and girls.

(3) *School Board.* The school board's specialized function in furthering the continuous growing of boys and girls is to provide for the conditions of growth. It should determine the school's policy for furnishing the buildings, equipment, apparatus, books, materials, suitable for furthering the growth of children, and should select the experts to carry out its program. In this connection, the school board approves recommended modifications of the educational policy, and determines school expenditures. In this sense, the school board performs a necessary specialized function in furthering the continuous growing of boys and girls.

(4) *Janitor.* The school janitor's specialized function in furthering the continuous growing of boys and girls is to provide for the physical conditions conducive to this end. He is charged with the ventilation, lighting, heating, cleaning, and sanitary conditions of the school plant. Intelligent control of these factors is the specialized function of the janitor in consummation of the school's function.

(5) *Superintendent.* The superintendent's specialized function is in organizing and directing the agencies of the school in such fashion as to further the continuous growing of boys and girls. He should make it possible for each agency to perform efficiently its specialized function, and to organize all its one interrelated and harmonious enterprise. In addition, he should direct each agency in functioning along its line successfully, for the very growth of children depends upon successful functioning of all the agencies of the school. He should in other words, develop each agency in the art of its functioning, as, for example, training supervisors in the art of *improving teacher guidance.* In this sense, he is the one responsible agent in the consummation of the school's function. He is the one whose eyes, mind, and soul should be steadfastly focused upon the continuous growing of boys and girls. In this sense his specialized function is to make possible and develop each agency in functioning successfully in the consummation of this end.

(6) *Teacher.* The teacher's specialized function in furthering the continuous growing of boys and girls is *stimulating and directing purposeful activity.* She should, in other words, afford boys and girls *guidance* in purposing, planning, executing, judging, for it is through the process of purposeful activity that boys and girls grow. In the first place, the teacher should guide

boys and girls in purposing. She should help them to choose wisely. In the second place, the teacher should guide boys and girls in formulating plans for realizing their chosen purposes. More specifically she should help them *find* and *learn* those processes, tools, and materials essential in successful realization of the chosen purpose. In the third place, the teacher should guide boys and girls in executing their plan. In this particular, she should afford them opportunity to actively work out their plan in the most effective manner. She should enable them to use efficiently the means essential in realization of the chosen purpose. In the fourth place, the teacher should guide boys and girls in judging their finished product. She should help them find and correct weaknesses found in selecting, learning, and using the means essential in pursuit of the chosen purpose. Lastly, the teacher should measure the growth of boys and girls. She should, in particular, devise means for measuring the changes in the conduct of boys and girls inevitably ensuing from changes in the functioning of their mechanisms. In this sense the teacher performs her specialized function in furthering the continuous growing of boys and girls.

(7) *Supervisor.* The supervisor's specialized function in furthering the continuous growing of boys and girls is the *improvement of teacher guidance.* This involves improvement of guidance in its particulars. In the first place, the supervisor should enable the teacher to improve her guidance in purposing. More particularly she should guide the teacher in affording boys and girls freedom to continue active participation in the real world about them. In this connection, she should help the teacher guide boys and girls in choosing the more fruitful of

their purposes. She should assist in this particular by developing with the teacher certain criteria in guiding children in purposing. She should, in other words, lead the teacher to understand that a fruitful purpose is *gripping, reliable,* and *"leads on."* In the second place, the supervisor should enable the teacher to improve her guidance of boys and girls in formulating plans for executing the chosen purpose. In this particular she should help the teacher guide the children in *finding and learning* the processes, materials, apparatus, and tools essential in successful realization of the chosen purpose. In the third place, the supervisor should enable the teacher to improve her guidance of boys and girls in executing the plan for realizing their purpose. More particularly, she should help the teacher guide children in *effective use* of each means, for successful realization of the chosen purpose depends upon effective use of all the means essential therein. In the fourth place, the supervisor should enable the teacher to improve her guidance of boys and girls in *finding* and *correcting* weaknesses revealed in the finished product in light of their purpose. It is discovering and eliminating at the time each particular shortcoming found in the process of realizing the chosen purpose that especially should concern the supervisor and for which she would help the teacher to improve her guidance. Lastly, the supervisor should enable the teacher to improve in measuring the growth of boys and girls. She should in particular help the teacher devise means for measuring changes in the conduct of boys and girls inevitably ensuing from engaging in purposeful activity. In this sense, the supervisor performs an essential specialized function in continuous growing of boys and girls. She is the teacher's particular and immediate friend, helper,

and guide in consummating the end for which the school exists, namely, furthering the continuous growing of boys and girls. She helps the teacher to grow.

(8) *The Principal.* The principal's specialized function in furthering the continuous growing of boys and girls is *improvement of* teacher guidance. *He is the chief supervisor of his school.* He performs the specialized function of the supervisor. Professor Charters has stated succinctly the function of the principal in the following excerpts taken from his article entitled:

THE PRINCIPAL'S MAIN CHANCE *

The principal's main chance lies in training on the job. . . . The principal is better situated than any other school officer to do training on the job. Training on the job does not mean training by lectures, or books, or by courses. Training on the job means analyzing mistakes and correcting them. A teacher is trained on the job by a principal when the principal observes her, commends her good practices, analyzes her mistakes, and shows her how to correct them. Lecturing about the job is not training on the job.

The principal is remarkably well situated to make this training efficient because in his head is collected a wide variety of methods of solving difficulties. He better than any other can gather these methods and pool the experience of successful teachers. Through him the entire teaching corps share in the best of each teacher.

The principal is the center for the development of morals in the faculty and the student body. His larger vision and riper experience which cause him to distinguish between petty details and mighty principles help him to guide his people to significant objectives. . . . The morale of a school family cannot be developed by the superintendent or his assistants. No executive can do it except the principal. The reason is clear. Morale can be developed only on the job. Lectures and inspirational addresses have a place; but in the last analysis a discouraged teacher has to be made optimistic by the removal of her individual difficulties, one by one.

* *Journal of Educational Research*, February, 1923.

Such is my idea of the importance of the principal. He alone among the executives can adequately give training on the job. He lives in his school family. He gathers a rich variety of methods from the classrooms and distributes them where they will be useful. He alone can develop morale in his teaching corps and the student body. To him alone is given the opportunity to use to its full capacity the extra-curricular life of the school for the development of high ideals.

To do so he must have a passion for human development. An office principal who loves the office cannot do the job. But an office principal has no business to be a principal. He is too small to handle the task of educating the young. He should be a bookkeeper or a filing clerk in a commercial office. What is needed for this task is a leader who marshals spiritual forces, not columns of figures. Less than this is too little.

If the principal is the keystone of the supervisory arch, the relation of the superintendent to the principal is clear. If we place on the shoulders of the principal the duties of supervision of his school, the superintendent's task is twofold, half negative and half positive. Negatively, he will relieve the principal of all clerical work except that to which it is absolutely necessary for him to give his personal attention. Positively, he will train his principals in the art of supervision.

When we recognize the *chief-function of supervisors is to improve children,* we get a distaste for office routine duties. When we recognize that *supervision of all sorts has to be done on the job,* the supervising principal and assistant superintendent cease to take a telescopic view of education and seek for direct personal contacts. . . . Supervision is measured by *its effect upon children,* and the principal who has a passion for improving instruction has the greatest executive job on earth.

This interpretation of the principal's function is at variance with customary practice. The principal in most schools is an office clerk. He performs, for the most part, clerical duties, and occasionally meets his teachers for the purpose of handing out directions and announcements. As Professor Charters points out, a principal of this kind "is too small to handle the task of educating the young. He should be a bookkeeper or a filing clerk in some commercial office. What is needed for this task

is a leader who marshals spiritual forces, not columns of figures. Less than this is too little." The principal thus should be relieved of all clerical duties. Such can be performed more efficiently by a trained stenographer. His function is improvement of teacher guidance in all its concrete particulars while the teacher is on the job. In this sense the principal performs a specialized function in furthering the continuous growing of boys and girls.

4. **Meaning of Supervision.** Education, as pointed out, is continuous growing. It is continuous change in conduct of boys and girls through continuous change in their drives and responses. It is creative. The primary conditions of growth involved in this interpretation of education are freedom of child response, community-life stimuli, and guidance. And, as previously observed, the particularized function of the school through its agencies is to further this end by providing for the conditions of growth. In this connection it was observed that each agency performs a specialized function. The teacher, for instance, performs the specialized function of stimulating and directing purposeful activity, for it is through such enterprise that boys and girls grow. Her particular job, in other words, is to provide for the cardinal forces in purposeful activity—freedom of child response and community-life stimuli—and to direct their interaction in the freest and completest manner. In this sense, *teaching is guidance.* The supervisor's specialized function, pointed out in this connection, is the improvement of teacher guidance in all its concrete particulars, as, for example, helping the teacher, on the one hand, provide suitable community-life stimuli, and, on the other, to direct the process of child response—purposing, planning, executing, and judging—to these stimuli. In this sense, supervision is the improvement of teacher guidance. It

comes through growth of the teacher, for the teacher improves her guidance only through growth in stimulation and direction of the children's purposeful activities. Since teaching is guidance, *supervision is the improvement of teacher guidance* through furthering the continuous growing of the teacher.

Three interrelated ideas are involved in the interpretation of supervision as the improvement of teaching. In the first place, supervision is focused directly upon the continuous growing of boys and girls for teaching is guiding the process of growing. Guidance is intrinsic in growing. Improving teaching is thus identical with improving the process of growing in boys and girls. In this sense, supervision is directly focused upon the continuous growing of boys and girls. In the second place, continuous growing of boys and girls is directly dependent upon the continuous growing of the teacher. Continuous growing of boys and girls, as observed, demands improvement of teaching. And this is identical with teacher growing for the teacher grows through improving her guidance. A fossilized teacher is an impossibility in child growing. Improvement of guidance is, on the one hand, the key to child growing, and on the other, the key to teacher growing. In this sense, supervision is directly concerned with the continuous growing of the teacher. In the third place, continuous growing of boys and girls, on the one hand, and the continuous growing of the teacher, on the other, demands improvement of guidance *on the job*. The former depends upon improving teacher guidance at the time and place boys and girls engaged in the process of growing. Likewise the latter depends upon improving guidance at the time and place the teacher affords boys and girls guidance in pursuit of their purposes. In this sense, *the improvement of teacher*

guidance is to take place in and through the job. It is supervision on the job. In fine, *supervision is the improvement of teacher guidance on the job.* In this sense it is a creative process for it changes both children and teachers simultaneously. It seeks to further the urge to grow—to create, to make, to discover—to reach onward —in either case by furthering the process of growing—of creating, making, discovering, reaching onward.

5. **Lines of Supervisory Guidance.** Supervision is, as we have seen, the improvement of teacher guidance on the job. It includes four interrelated phases in every instance. In the first place, the improvement of teacher guidance demands guidance in the choice of teaching difficulties. This is essential in the growth of the teacher for without choice of difficulty on the part of the teacher, effort in the improvement of teaching would be aimless —without purpose on the part of the teacher. Supervisory guidance assists the teacher in analyzing her difficulties and in choosing the most promising ones to overcome. In the second place, the improvement of teacher guidance demands guidance in the construction of teaching plans designed to overcome the chosen difficulty. Without such a plan effort to overcome the chosen difficulty would be a "hit and miss" affair and for this reason improvement in teaching could not take place. Supervisory guidance enables the teacher to construct a plan for overcoming the chosen difficulty. In the third place, the improvement of teacher guidance demands guidance in the execution of teaching procedures. Success in the use of teaching procedures designed to overcome chosen difficulties is fundamental, for without success in this respect the teacher could not overcome her difficulties in teaching. Supervisory guidance sees that success attends the teacher's use of teaching procedures. In the fourth place,

the improvement of teaching demands guidance in the measurement of progress in overcoming particular teaching difficulties. Without such measurement the teacher would have no way of knowing when she had overcome difficulties, nor would she have any way of knowing the intrinsic value of particular teaching procedures. Supervisory guidance assists the teacher in this particular, for in no other way is it possible for the teacher to know when she has improved her guidance. In brief, supervisory guidance is along the following lines:

1. Guidance in choice of teaching difficulties.
2. Guidance in construction of teaching procedures.
3. Guidance in execution of teaching procedures.
4. Guidance in measurement of teaching improvements.

The province of this volume is to set forth a suggestive procedure for the supervisor to pursue in performing these phases of supervisory guidance.

6. Conventional Supervision. This interpretation of supervision contrasts sharply with the customary interpretation. Current practice of supervisors quite generally seeks to find out to what extent teachers have "covered" the prescribed subject-matter within the allotted time, the attendance and punctuality of children, personal tidiness, accuracy in keeping records and the like. Supervision of this type is focused directly upon the teacher; it is merely teacher judging. The supervisor thereby becomes an inspector rather than an improver. She endeavors to discover what *is,* rather than *guide* the urge to grow. In fact, supervision of this kind is primarily teacher rating. And this is, for the most part, the current type of supervision. Supervision in the

city schools of New York is typical. Teachers in this instance were judged, inspected, rated on the following list of points: *

1. Ability to comprehend instructions.
2. Ability to cooperate with other teachers.
3. Skill in blackboard work.
4. Skill in questioning.
5. Skill in presentation.
6. Use of objective illustration.
7. Power to interest.
8. Thoroughness of drill.
9. Self-control and manners.
10. Use of English language.
11. Use of voice.
12. Attendance.
13. Punctuality.
14. Personal tidiness.
15. Accuracy in keeping records and making reports.
16. Control of class.
17. Energy and success in self-improvement.

The most serious evil of inspectorial supervision is its fallacious interpretation of teaching. In the first place, it makes the aim of teaching, prescribing, questioning, listening, and testing. It is to inject the traditional school subjects into boys and girls within a prescribed time. And the teacher is judged on this basis. Witness the New York list. "Skill in questioning," "skill in presentation," "power to interest," "thoroughness of drill," and the like all seek this end. In the second place, teaching is in terms of the elements making up the scale. Why not? Excellence on these points is what counts. The

* McMurry, F. M., *Elementary School Standards*, pp. 195–201.

teacher is aware of this fact. She is scaled periodically. Quite naturally she follows the list closely in teaching. It is the focus of her interest. Boys and girls are secondary. In the third place, teaching is judged in terms of elements *external* to the process of growing in boys and girls. Witness the New York list. They all apply to the teacher and traditional subject-matter. Education thus becomes a farce for teaching itself is external to its process.

This difference in supervision is the result of the interpretation of education. Inspectorial supervision functions *par excellence* in education as assimilation and reproduction of the traditional school subjects. It cannot be criticized in its function on this basis. It seeks to carry out its mission. Since the teacher exists to inject prescribed facts into boys and girls, quite naturally supervision is focused directly upon her. "Skill in questioning," "skill in presentation," "power to interest," "thoroughness of drill," and the like are all phases of the injecting process. Hence scale the teacher on these points. Guidance in supervision serves a different end. It is allied with education as continuous growing of boys and girls. It seeks to *improve* directly the *process* of purposeful activity for it is through such enterprise children and teachers grow. Quite naturally supervision of this kind is focused upon boys and girls. It seeks to analyze their growth in order to discover the improvements in teaching.

FURTHER DISCUSSION

1. Collings, Ellsworth, *An Experiment with a Project Curriculum*, pp. 317–321.
2. Dewey, John, *School and Society*, Chs. 1, 2, and 6.
3. Dewey, John, *Schools of Tomorrow*, Chs. 1, 2, 3, 7, and 10.

4. *Journal of Educational Method,* October, 1922, pp. 86–87; December, 1924, pp. 134–143.
5. *Journal of Rural Education,* January, 1922, pp. 193–197.
6. *Journal of Educational Research,* February, 1923. (Charters.)
7. McMurry, F. M., *Elementary School Standards,* pp. 195–201.
8. Meriam, J. L., *Child Life and Curriculum,* Ch. 8.
9. Smith, W. H., *All the Children of All the People,* Ch. 27.
10. Wells, H. G., *The Story of a Great Schoolmaster.* (All.)

CHAPTER X

THE STANDARDS OF SUPERVISION

1. Criteria of Growth. The criteria of growth are, as we have seen, activity, goal, drive, success and "leading on." They are the criteria of growth because, in the first place, they measure its quality, and, in the second place, they explain its process. They explain the child's mode of learning. Activity, for example, explains that action of children's mechanisms changes their functioning; goal explains how children's mechanisms are aroused and guided in their action; drive explains how children's mechanisms get into action vigorously along particular lines; success explains that actual action of children's mechanisms is necessary to their change; and "leading on" explains that action of a mechanism with satisfaction ever leads on to the action of other mechanisms. The criteria of growth thus abide in and are derived from the process of growing in boys and girls, for they explain how growth takes place in every instance.

2. The Criteria of Growth and Teaching. There are four points considered in previous discussions that indicate the relation of teaching and the criteria of growth. The first point is the nature of education itself. Education, as we have seen, is the continuous growth of boys and girls. It is continuous change in their conduct. This point indicates the function of teaching. It indicates that the teacher's function is to further the continuous growth of boys and girls since her job is the education

of boys and girls. The second point is how education takes place. Growth takes place, as we have seen, through purposeful activity. This point indicates that the teacher achieves her function through purposeful activity. The third point is the conditions of purposeful activity. Purposeful activity depends, as we have seen, upon stimulation and direction. It depends, in the first place, upon stimuli capable of stimulating action in children's mechanisms along their readiness, and, in the second place, upon direction of the action of their mechanisms along the lines of their readiness. This point indicates how teaching takes place. It indicates that teaching takes place through stimulating and directing the purposeful activities of boys and girls. The fourth point is the nature of the criteria of growth themselves. The criteria of growth explain, as we have seen, the process of growth. They explain, in this sense, the process of teaching—the process of stimulating and directing purposeful activity. They explain that the teacher must provide stimuli capable of setting up goals, allow children to set up goals along their drives, aid children in successful attainment of their goals, and lead them to choose goals that lead on to others. The criteria of growth are, in this sense, the teacher's criteria of teaching.

3. **The Criteria of Growth and Supervision.** Since supervision is the improvement of teaching, the criteria of growth play a primary rôle in supervision. They do for four reasons. In the first place, the improvement of teaching demands that the supervisor analyze the difficulties of particular teachers. Teaching is, as we have seen, furthering the continuous growth of boys and girls. The teacher achieves this end through providing for activity, goal, drive, success, and "leading on" on the part of boys and girls, for these are the factors of growth in every

instance. These factors are the criteria of teaching for they reveal to what extent the process of teaching is in accordance with the process of growth. They reveal, in other words, weaknesses (as well as strengths) of teaching. The criterion of activity, for example, reveals the extent of teacher participation in a school enterprise. It reveals, in this sense, a weakness of teaching, for growth demands child participation in school enterprises in every instance. The first duty of the supervisor in the improvement of teaching thus is to diagnose in light of these criteria the nature of participation, goal, drive, success, and "leading on" prevailing in particular school enterprises. It is only in such manner that the supervisor is able to discover difficulties of particular teachers. The criteria of growth play a primary rôle in supervision for they enable the supervisor to discover teaching difficulties.

In the second place, the improvement of teaching demands that the supervisor aid the teacher in overcoming particular difficulties of teaching, such as, for example, teacher participation instead of child participation, teacher goals instead of child goals, teacher drives instead of child drives, etc. The criteria of growth play an important rôle in this particular of supervision. They suggest the aid necessary to overcome difficulties of teaching. The criterion of activity, for example, suggests in the case of teacher participation in school enterprises, that the supervisor should aid the teacher in formulating a procedure that provides for child participation. The criteria of growth function, in this sense, as standards in determining the procedures for overcoming teacher difficulties in furthering the growth of boys and girls. The second duty of the supervisor in the improvement of teaching thus is to aid the teacher in light of these criteria to formulate particular procedures designed

to overcome particular difficulties in teaching. The criteria of growth play an important rôle in this particular of supervision for they suggest the procedures necessary for overcoming particular teaching difficulties.

In the third place, the improvement of teaching demands that the supervisor guide the teacher in the execution of a teaching procedure designed to overcome a particular difficulty. The criteria of growth play an important part in this particular of supervision. The Criterion of Activity, for example, demands that the supervisor permit the teacher to execute the teaching procedure, for, as we have seen, growth of the teacher takes place in this phase of teaching through participation; the Criterion of Goal demands that the supervisor permit the teacher to overcome her present difficulties, for it is only such such difficulties that function as goals in the teacher's teaching; the Criterion of Drive demands that the supervisor permit the teacher to carry out her own teaching procedures, for it is such procedures the teacher is in a state of readiness to use in her teaching; the Criterion of Success demands that the supervisor see that success attends the teacher's execution of her procedures; and finally the Criterion of Leading On demands that the supervisor aid the teacher to follow up significant leads arising out of the execution of particular procedures of teaching. The third duty of the supervisor in the improvement of teaching thus is to aid the teacher in light of these criteria to execute successfully particular teaching procedures.

In the fourth place, the improvement of teaching demands that the supervisor measure the progress of the teacher in overcoming particular difficulties in teaching. This is necessary for at least two reasons. First, it reveals to the supervisor the progress a teacher is making

in overcoming a particular difficulty, such as, for example, teacher participation in school enterprises. Measurement of the teacher in this respect indicates improvements in the teacher's guidance in increasing child participation in school enterprises. It indicates improvements of teaching. Second, it reveals the intrinsic value of teaching procedures designed to overcome particular teaching difficulties. If measurement of a teacher indicated an improvement of child participation in school enterprises, such would be a measurement of the value of the teaching procedures employed in that instance. The third duty of the supervisor in the improvement of teaching is to measure the progress a particular teacher is making in overcoming particular difficulties in teaching, for in no other way is it possible to ascertain, in the first place, whether a teacher is improving in teaching, and, on the other hand, whether a particular teaching procedure is conducive to the improvement of teaching. The criteria of growth play an important rôle in this particular of supervision, for they reveal, on the one hand, the progress of the teacher in correcting a particular teaching difficulty, and on the other hand, the intrinsic value of a teaching procedure in overcoming a particular teaching difficulty. In brief, the criteria of growth function along the following lines in supervision:

I. Measuring teaching difficulties
II. Constructing teaching procedures
III. Executing teaching procedures
IV. Measuring improvements of teaching

4. The Standards of Supervision. The criteria of growth play, as we have seen, a primary rôle in supervision. They function along four lines. First, they re-

veal teaching difficulties in furthering the growth of boys and girls. They are, in this sense, the supervisor's means for ascertaining teaching difficulties. Second, they suggest teaching procedures for overcoming particular teaching difficulties. They are, in this sense, the supervisor's means for aiding a teacher in constructing particular teaching procedures. Third, they enable the supervisor to aid the teacher to execute teaching procedures. They are, in this sense, the supervisor's means of seeing that success attends the teacher's execution of teaching procedures. Fourth, they reveal progress of a teacher in overcoming a particular difficulty. They are, in this sense, the supervisor's means for ascertaining, on the one hand, teacher improvement, and, on the other, the intrinsic value of particular teaching procedures in overcoming teaching difficulties. The criteria of growth are, in this sense, the standards of supervision, for they are the supervisor's instruments in measuring teaching difficulties, constructing teaching procedures, guiding the execution of teaching procedures, and measuring the improvements of teaching. They are: activity, goal, drive, success and "leading on."

FURTHER DISCUSSION

1. McMurry, F. M., *Elementary School Standards,* Chs. 1, 2, 3, 4, 5, 6, and 7.

PART II

THE IMPROVEMENT OF SUPERVISION PRACTICE

CHAPTER XI

A CONDUCT SCALE FOR THE MEASUREMENT OF TEACHING

Nature of the Standards of Supervision

1. Standards That Reveal Nature of Child Participation. The Standards of Activity and Drive apply solely to the conduct of children and teacher in carrying forward a particular enterprise as follows:

(a) *The Standard of Activity.* This standard reveals the number of responses made by each child and the teacher in carrying forward a particular enterprise. It indicates specifically the number of responses made by each child (also the teacher) in setting up the goal, in formulating plans for its attainment, in the execution of the plan, in finding and effecting improvements, and in leading to other activities. It reveals, in this sense, exactly who makes the responses in carrying forward a particular enterprise.

(b) *The Standard of Drive.* This standard reveals whether the responses made by each child in carrying forward a particular school enterprise are voluntary or involuntary. It indicates, in this sense, the number of responses that are the result of an inner urge on the part of the child and the number that are the result of an outer urge, usually on the part of the teacher. It indicates, in other words, the number of voluntary and involuntary responses made by each child in engaging in a particular enterprise.

2. Standards That Reveal Nature of School Enterprise. The Standards of Goal, Success and "Leading On" apply solely to the nature of particular enterprises as follows:

(a) *The Standard of Goal.* This standard reveals whether a particular school enterprise admits of a child goal. It indicates specifically whether an enterprise admits of the following steps in setting up a goal to pursue:

I. Purposing
1. Initiation of goal
2. Evaluation of goal
3. Choice of goal

(b) *The Standard of Success.* This standard reveals whether a school enterprise admits of (1) formulation of a plan, (2) execution of the plan, (3) judging success and failure. Specifically this standard indicates whether a particular enterprise admits of the following steps:

I. Planning
1. Initiation of means
2. Evaluation of means
3. Choice of means
4. Organization of means

II. Execution
1. Execution of means

III. Judging
1. Initiation of improvement
2. Evaluation of improvement
3. Choice of improvement
4. Consummation of improvement

(c) *The Standard of "Leading On."* This standard reveals the fruitfulness of a particular school enterprise. It indicates whether an enterprise is branching—whether

it prepares and leads to other enterprises—and may be stated as follows:

I. "Leading On" 1. Suggesting related goals.

3. A Suggestive Conduct Scale for the Measurement of Teaching. The following Conduct Scale involves a practical use of the Standards of Supervision in the Measurement of Teaching. It is in two parts. The first part includes the Activity Score Card. The second part includes an explanation, illustration, and tests for each of the activity traits.

Conduct Score Card—Part I

The Activity Score Card

1. Content of Score Card. This Score Card includes, in the first place, the steps involved in each of the standards of activity, drive, goal, success, and "leading on." The Standards of Goal, Success, and "Leading on" are indicated horizontally at the top of the card as follows:

1. Initiation of Goal.
2. Evaluation of Goal.
3. Choice of Goal.
4. Initiation of Means.
5. Evaluation of Means.
6. Choice of Means.
7. Organization of Means.
8. Execution of Means.
9. Initiation of Improvement.
10. Evaluation of Improvement.
11. Choice of Improvement.

12. Consummation of Improvement.
13. Leading to Further Goals.

The Standards of Activity and Drive are included vertically at the left side of the card in the form of "D" and "R" for each of the foregoing traits. In the second place, space is provided on this card for each child's name, name of the school enterprise, teacher, scores for each of the several activity traits, total individual response, total individual drive, total group response, total group drive, the Individual Drive Index, the Individual Response Index, the Group Drive Index, and the Group Response Index.

2. **Scoring Responses.** Response is the participation of a child in carrying forward an enterprise. It is seen in a child's overt participation in the initiation, evaluation, and choice of goal; initiation, evaluation, and choice of means; organization of means; execution of means, initiation, evaluation, choice and consummation of improvement; and leading to further goals. Count each response with a tally mark opposite the child's name under the appropriate activity trait on the score card. The sum of the responses (each response counting one) is recorded on the response line opposite the child's name in the column labeled "Individual Total." The method of scoring responses is the same for both individual and group responses.

3. **Scoring Drives.** Drive is voluntary participation on the part of a child in carrying forward an enterprise. It is seen in the voluntary character of a child's responses in the initiation, evaluation, and choice of goal; initiation, evaluation and choice of means; organization of means; execution of means; initiation, evaluation, choice and consummation of improvement; and leading to further

Activity Score Card

Activity _____ Grade _____

Teacher _____ Date _____

PUPILS		ACTIVITY TRAITS															
		Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
	D																
	R																
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	R																
Group Total	D																
	R																
Group Index	D																
	R																

Fig. 1, Page 124.

Activity Index Card

Activity _____ Grade _____

Teacher _____ Date _____

PUPILS	Drive and Response Index	ACTIVITY TRAITS													
		Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals
	D													
	R												

goals. Count each drive with a tally mark opposite the child's name under the appropriate trait on the score card. The sum of the drives (each drive counting one) is recorded on the drive line, opposite the child's name in the column labeled "Individual Total." The method for scoring drives is the same for both individual and group activity.

4. The Individual Drive Index. The Individual Drive Index is obtained by dividing the total number of the child's drives (voluntary response) by the total number of its responses made in an enterprise. It expresses the ratio of the child's voluntary and involuntary responses made in a particular instance. The formula is:

$$\text{Individual Drive Index equals } \frac{CD}{CR}$$

(CD is symbol for child drives; CR is symbol for child responses.)

This formula is applicable to both individual and group activity. The following illustrates the method for computing the Individual Drive Index. Suppose Carl's Score Card shows a total of 300 drives in making, say, a rabbit trap, and a total of 300 responses made in making the trap. His D. I. equals the drives divided by the responses, or 300 divided by 300 or 100. Carl's Drive Index in this instance indicates that all his responses are voluntary.

The Individual Drive Index may be computed for any particular child in each individual trait, a selected combination of traits, or all traits of purposeful activity.

5. The Individual Response Index. The formula for computing the Individual Response Index differs for individual and group activity. The formula for each is as follows:

(a) *The Individual Response Index for Individual Activity.* The Response Index for individual activity is obtained by dividing the responses actually made by a child by the total number of responses made in carrying an individual activity through to successful conclusion. The total number of responses is obtained by adding the number of responses made by all the participants (usually the child and teacher) engaged in an individual activity. The Response Index expresses the ratio of responses made by a child to the total responses necessary in successful consummation of an individual activity. The formula is:

$$\text{Individual Response Index equals } \frac{CR}{CR + TR}$$

(CR is symbol for child responses; TR is symbol for teacher responses.)

The following illustrates the method of computing the Individual Response Index for individual activity. Suppose Carl's Score Card shows he made 500 responses in making, say, a snow sled, and that the total responses made in this instance is 500. His R. I. equals 500 divided by 500 or 100. Carl's Response Index indicates that he made all the responses needed in carrying forward the enterprise in question.

The Individual Response Index for individual activity may be computed for any particular child in each individual trait, selected combination of traits, or all traits of purposeful activity.

(b) *The Individual Response Index for Group Activity.* The Individual Response Index for group activity is obtained by dividing the responses actually made by a child in a group activity by the mean group response made by all participants in the group activity. The mean

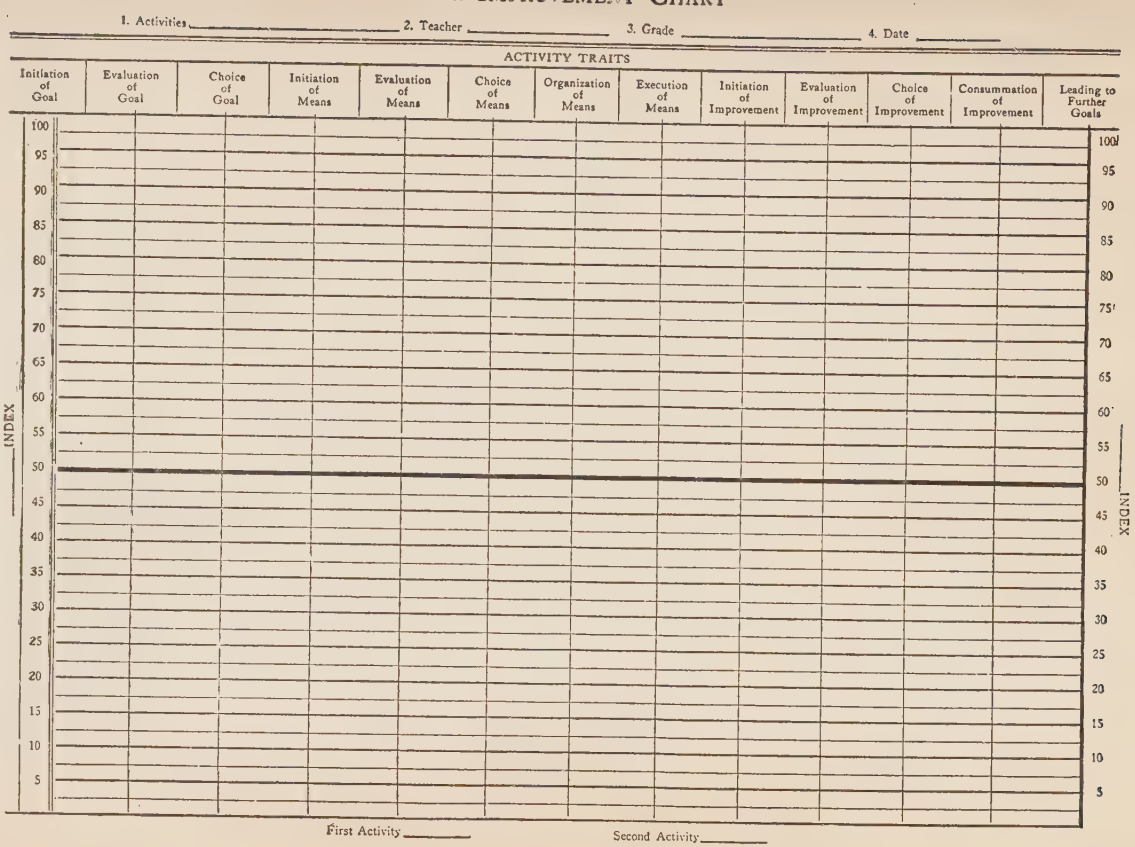

FIG. 3, PAGE 126.

group response is obtained by dividing the sum of the responses of all participants (usually children and teacher) in the group activity, by the number of participants. The Individual Response Index expresses the ratio of the response made by each child participating in a group activity to the mean group response of the group activity. The formula is:

$$\text{Individual Response Index equals } \frac{CR}{MR}$$

(CR is symbol for child responses; MR is symbol for Mean Group Response.)

The following illustrates the method of computing the Individual Response Index for group activity. Suppose John made 100 responses in a group activity, say playing Roly Poly, Mary 50, Carl 150, Bill 100, and Tom 100. The mean group response in this instance is 100.

$$\text{John's R. I. equals } \frac{100}{100} \text{ or } 100$$

$$\text{Mary's R. I. equals } \frac{50}{100} \text{ or } 50$$

$$\text{Carl's R. I. equals } \frac{150}{100} \text{ or } 150$$

$$\text{Bill's R. I. equals } \frac{100}{100} \text{ or } 100$$

$$\text{Tom's R. I. equals } \frac{100}{100} \text{ or } 100$$

John's, Bill's and Tom's R. I. indicate that they did their share of the responses in carrying forward successfully the enterprise in question. Mary's R. I. indicates she did

only one-half of her share of the work in this instance. Carl's R. I. indicates he did one-half more than his share of the work in question.

The Individual Response Index for individual activity may be computed for any particular child for any particular traits, selected combination of traits, or all traits of purposeful activity.

6. The Group Drive Index. The Group Drive Index is obtained by dividing the total number of drives by the total number of responses made by a particular group of children. It expresses the ratio of a group of children's voluntary and involuntary responses made in a particular enterprise.

$$\text{Group Drive Index equals } \frac{GD}{GR}$$

(GD is symbol for Group Drive; GR is symbol for Group Response.)

This formula is applicable to a group of children engaging in either individual or group activity. The following illustrates the method of computing the Group Drive Index. Suppose the Score Card of a third grade group of children engaging in the dramatization of stories shows a total of thirteen drives and nineteen responses in the initiation of goals. The Group Drive Index equals thirteen divided by nineteen or sixty-eight. It indicates that sixty-eight per cent of the children's drives in this instance were voluntary and thirty-two per cent were involuntary.

The Group Drive Index may be computed for any particular group of children for each individual trait, selected combination of traits, or all traits of purposeful activity.

7. The Group Response Index. The Group Response Index is obtained by dividing the total number of responses actually made by a group of children by the total number of responses made in carrying forward the enterprise. The total number of responses is obtained by adding the number of responses made by all participants of the group (usually the children and the teacher). The Group Response Index expresses the ratio of response actually made by a particular group of children to the total response necessary in successful consummation of an enterprise. The formula is:

$$\text{Group Response Index equals } \frac{GR - TR}{GR}$$

(GR is symbol for Group Response; TR is symbol for Teacher Response.)

The following illustrates the method for computing the Group Response Index. Suppose the Score Card of a third grade group of children engaging in the dramatization of stories shows a total of fifteen responses made by the children and four responses made by the teacher, in the initiation of goals. The total response made by all participants (children and teacher) in this instance, was nineteen. The Group Response Index equals the total responses made by the children divided by the total response made by all participants (children and teacher), or 15 divided by 19, or 78. It indicates that the children made seventy-eight per cent of the responses in this instance.

The Group Response Index may be computed for any particular group of children for any particular traits, selected combinations of traits, or all traits of purposeful activity.

Conduct Score Card—Part II

traits of purposeful activity

Activity Trait 1—Initiation of Goal.

I. Explanation:

Initiation of Goal includes children suggesting the goal they wish to pursue whether it be in individual or group activity.

II. Illustration:

"Pshaw, I'm so tired," remarked James (near the close of the story conference). "We've been telling stories so long."

"Let's play Roly Poly," suggested John. "I'm tired too. My feet have gone to sleep."

"Gosh, John, that's what I want to play too," interrupted Lonnie. "I bet I can win."

"Shame, Lonnie, don't you know what mamma said she'd do if you didn't quit saying that word," scolded Jennie. "I'd like to play volley ball."

"Say, kids, I'll tell you what let's do," exclaimed Mary. "Let's dramatize the Gingerbread Boy story. I just hate old Roly Poly."

"Shucks, Mary, all you can think about is old stories," retorted Bill. "I'd like to play a game of town ball."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in initiation of goal.*
   (*a*) Voluntary proffering a particular goal.
   (*b*) Outside compulsion in proffering a particular goal.

2. *For response in initiation of goal.*
   (*a*) Overt proffering a particular goal.
   (*b*) Non-proffering a particular goal.

Activity Trait 2—Evaluation of Goal.

I. Explanation:

Evaluation of Goal includes children discussing (before making a choice) (1) the particular things to do in execution of the suggested goals and (2) the possibility of doing these things. With group activity the group as a whole evaluates the suggested goals. With individual activity, the individual child evaluates the suggested goals with the assistance of the teacher. Evaluation of a goal may occur at the time a goal is suggested, or it may occur after all goals have been suggested.

II. Illustration:

"Billy Johnson, don't you know we'll have to play town ball outdoors," explained Iona. "We can't play to-day."

"Why?" explained Billy. "All we'll have to do is to get the bat, ball, and glove."

"It's raining, don't you see?" continued Iona. "We can't play in the rain."

"Shucks, you're just afraid you'll get that new dress wet, I guess," retorted James.

"I know! I know!" exclaimed Carl. "Let's play inside."

"Well! Well! This room isn't big enough," broke in Christine. "We'll have to go outdoors."

"Oh, me," sighed Carl. "I guess you're right."

"We can't play volley ball either," exclaimed Kenneth. "That's hard luck."

"Well, why?" queried Jennie. "All we'd have to do is to put up our net and decide on our score."

"We'd have to play outdoors, though," continued Kenneth. "Don't you see it's raining?"

"Gee, we can play Roly Poly," argued John. "We can play right in this room."

"Sure," agreed Bobby. "All we'll have to do is to make our triangle and bowling lines."

"That's not all," disagreed Jimmie. "We have to decide on our rules and make our score board."

"You're right, Jimmie," interrupted Lonnie. "But that's easy."

"I know what we can do," broke in Mary. "We can dramatize the Gingerbread Boy right where we are."

"That's right," agreed Jennie. "But it would take too long to get ready."

"Wouldn't take any longer than Roly Poly," argued Mary. "All we have to do is to select our characters and act out our parts."

"But all of us can't take part," explained Carl. "We can in Roly Poly."

"Can too," retorted Mary. "There's a part for every one. You just don't want a part. I won't take a part in your old Roly Poly either."

"Shucks, Mary, you don't know what you are talking about," interrupted James. "You'll play if the rest of us do, won't she, Miss Burke?"

"Surely," remarked Miss Burke. "Whatever the most of us agree on is what we'll do, isn't it?"

"Well, I guess so," grumbled Mary. "I just hate old Roly Puly, though. I want to dramatize my story."

"Oh, no!" laughed John, "I thought so (referring to Mary's story). I'm just dying to play Roly Poly."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in evaluation of goal.*
   (*a*) Voluntary discussion of things to do in pursuit of a particular goal.
   (*b*) Voluntary discussion of possibility of doing things involved in a particular goal.
   (*c*) Outside compulsion in either (*a*) or (*b*).

2. *For response in evaluation of goal.*
   (*a*) Overt discussion of things to do in pursuit of a particular goal.
   (*b*) Overt discussion of possibility of doing things involved in a particular goal.
   (*c*) Non-discussion in either (*a*) or (*b*).

Activity Trait 3—Choice of Goal.

I. Explanation:

Choice of Goal includes children indicating a preference for some one of the suggested goals. With group activity, the chosen goal may be the choice of the group as a whole or the group may divide into smaller groups, each choosing its own goal. With individual activity, the individual child makes the choice with the assistance of the teacher.

II. Illustration:

"Let's vote," suggested Lucille. "We've discussed everything suggested."

"I'm ready to choose one," added Jennie.

"Me too," shouted Neva. "You know the one getting the most votes is the one we'll do."

"Sure," interrupted Iona. "Oh! I can hardly wait."

"Roly Poly is my choice," exclaimed Carl.

"It's mine too," put in John. "That's two votes—see."

"I'm for dramatizing the Gingerbread Boy story," shouted Mary. "That is one vote."

"Put me down for Roly Poly," insisted Lonnie. "That's three votes."

"Yes, and me," added Billie. "It's going to be unanimous."

"It's not, smarty," remonstrated Mary. "I never voted for Roly Poly,—see?"

"And Kenneth didn't vote for anything," added Jennie. "Roly Poly got the most votes though."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in choice of goal.*
   (*a*) Voluntary approval of a particular goal.
   (*b*) Outside compulsion in approval of a particular goal.

2. *For response in choice of goal.*
   (*a*) Overt approval of a particular goal.
   (*b*) Non-approval of a particular goal.

Activity Trait 4—Initiation of Means.

I. Explanation:

Initiation of Means includes children suggesting the particular processes necessary in attaining their goal. With group activity, it may be that the group as a whole initiates the means, or it may be that the group divides into smaller groups, each initiating means for a particular division of the plan. With individual activity, the individual child initiates all the means.

II. Illustration:

"I'd like to make the sides of our triangle four feet long," suggested James. "You know we have to place the Roly Polys on the lines of the triangle and we want to have plenty of room."

"Let's have three bowling lines," interrupted John. "One could be five feet from the triangle, another ten, and another fifteen."

"I want to know how we're going to keep up with our scores," queried Billie. "Let's make a score board like we use in town ball."

"That's just what I was going to say," added Carl. "Let me make it."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in initiation of means.*
   (*a*) Voluntary proffering a particular mean.
   (*b*) Outside compulsion in proffering a particular mean.

2. *For response in intiation of means.*
   (*a*) Overt proffering a particular mean.
   (*b*) Non-proffering a particular mean.

Activity Trait 5—Evaluation of Means.

I. Explanation:

Evaluation of Means includes children discussing (1) how to perform a particular process, and (2) possibility of performing the process before making a choice. With group activity, it may be the group as a whole evaluates the suggested processes, or it may be the group divides into smaller groups, each evaluating a particular part of the suggested processes. With individual activity, the individual child evaluates all of the suggested processes with the assistance of the teacher. Evaluation of suggested processes may take place at the time each process is suggested, or it may take place after all the processes have been suggested.

II. Illustration:

"Well, I can't see," interrupted Iona, "why we need more than one bowling line. Why can't we all stand on the first one?"

"You don't," interjected John. "But it's more fun to have two or three. Anyway, I read in one game book where there can be more than one bowling line and the score you make is always counted by the line you play."

"Yes," agreed Kenneth. "And another thing it said was that the score value of the line nearest the triangle is least and the one farthest is greatest."

"Oh, gee!" broke in Lonnie. "I'll take a chance on the farthest line. I'm better on long throws."

"I won't," objected Neva. "I'd rather be close."

"Girls are little 'fraidy cats' anyway," teased Lonnie. "It's easy from the farthest line."

"Boys think they are so smart," pouted Neva. "Anyway, if I stand on the closest line, I'll not miss so many Roly Polys, I guess."

"Listen here," admonished Carl. "You can stand on any line you wish, and you can change any time you wish."

"I don't believe that," argued Lonnie. "Your score is counted from the bowling line you play on."

"I know that," explained Carl. "But you can change any time you wish, and the score counts from the line you bowl from."

"How's that done?" queried Billie. "I'd like to know."

"Well," continued Carl. "If you selected the first line and bowled a Roly Poly over with your first ball, you'd make one; if you then changed to the second line and hit a Roly Poly with your second ball, you'd make two, see?"

"Yes," replied Billie.

"And if you then changed to the third line and hit another Roly Poly with your third ball, you'd make three," continued Carl. If you want to, you can throw all three balls from any one of the lines, though."

"I see, now," remarked Lonnie. "I know how, now."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in evaluation of means.*
   (*a*) Voluntary discussion of how to perform a particular mean.
   (*b*) Voluntary discussion of possibility of performing a particular mean.
   (*c*) Outside compulsion in discussion of either (*a*) or (*b*).

2. *For response in evaluation of means.*
   (*a*) Overt discussion of how to perform a particular mean.
   (*b*) Overt discussion of possibility of performing a particular mean.
   (*c*) Non-discussion of either (*a*) or (*b*).

Activity Trait 6—Choice of Means.

I. Explanation:

Choice of Means includes children's approval or disapproval for use in execution, of suggested processes. Choice may be made at the time a suggested process is evaluated, or it may be made after all suggested processes have been evaluated. With group activity, the group as a whole makes the choice. With individual activity, the individual child makes the choice with assistance of the teacher. Preference for or against a particular process is usually (in case of group activity) by voting. Either approval or disapproval counts in choice of means.

II. Illustration:

"Well, we haven't decided about the size of the triangle yet," explained John. "I want to make each side four feet long. How about it?"

"You said you had to put the Roly Polys on the triangle, didn't you?" queried Neva (who found it hard to remember everything).

"Yes, I told you that," replied John sharply. "You have to put one on each corner and two on each side. You have to be sure and have them the same distance apart."

"I think the sides of the triangle are too long," objected Iona. "It would be hard to hit a Roly Poly when they are so wide apart."

"Aw, Iona! You don't know. You never did play this game," exclaimed Lonnie (with an important air). "That's just the right size. If it was any smaller, you'd miss the whole triangle."

"How many of you think like Lonnie and some of the rest of us?" queried John. "Let's vote."

"I'm for four feet," exclaimed Lonnie.

"Me too," added John.

"I'm not," retorted Iona. "What do you say, Mary?"

"I don't care," replied Mary. "I'm not voting." This illustrates choice of means on the part of Lonnie, John, and Iona

(test 1 applying in first two instances and test 2 in last instance), and non-choice on part of Mary (test 2 (*a*) applying).

III. Tests. Does each child exhibit any one of the following?

1. *For drive in choice of means.*
   (*a*) Voluntary approval or disapproval of a particular mean.
   (*b*) Outside compulsion in approval or disapproval of a particular mean.

2. *For response in choice of means.*
   (*a*) Overt approval or disapproval of a particular mean.
   (*b*) Non-approval of a particular mean.

Activity Trait 7—Organization of Means.

I. Explanation:

Organization of Means includes children arranging the chosen processes in such fashion as to indicate the order in which they are to be performed in the attainment of their goal. Decision on the order of performing the processes may occur at the time a particular process is chosen, or it may occur after all the processes have been chosen. Such an arrangement of processes determines the order of procedure in the pursuit of a chosen goal. It may not be written out always, depending on the complexity of the processes. With group activity, the group as a whole arranges the processes. With individual activity, the individual child arranges the processes with assistance of the teacher.

II. Illustration:

"First thing we'll have to do is to draw our triangle," suggested Billie. "And I'm what can do it."

"Sure," agreed Neva.

"Another thing we have to do is to mark off our bowling lines," added Fred. "I'll make them. I just like to measure."

"We'll have to write the score value on each bowling line before we can play," remarked Lonnie.

"I'll do that."

"Yes, and we'll have to place the Roly Polys on the triangle," suggested Christine. "You do that, Iona."

"I sure will," agreed Iona.

"There's the score board too," interrupted Bobby. "John, you make it."

"That's just what I wanted to do," shouted John. "I'll have it ready by the time Christine gets the Roly Polys on the triangle."

"The next thing we do is to bowl at the Roly Polys, isn't it?" queried Carl. "I can't think of anything else to do."

"You're right, Carl," agreed Jennie.

"Oh! We've forgotten something," exclaimed Jimmie. "We'll have to put our rubber balls in the little box on the first bowling line."

"Well, I'd think so," added Jennie. "We do that just as soon as we mark off our bowling lines."

"Gee!" interrupted Kenneth. "The last thing we do is to add our scores. That's how we'll find out who won the game."

"Oh, goody! goody! we are ready now!" yelled John (jumping up and down). "Every fellow choose his bowling line and bowl in his turn."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in organization of means.*
   (*a*) Voluntary proffering an order for performing a particular means.
   (*b*) Voluntary discussion of desirability of proffered order in performing a particular means.

(*c*) Voluntary approval or disapproval of a proffered order in performing a particular means.

(*d*) Outside compulsion in either (*a*), (*b*), or (*c*).

2. *For response in organization of means.*

(*a*) Overt proffering an order for performing a particular means.

(*b*) Overt discussion of desirability of proffered order in performing a particular means.

(*c*) Overt approval or disapproval of a proffered order in performing a particular means.

(*d*) Non-participation in either (*a*), (*b*), or (*c*).

Activity Trait 8—Execution of Means.

I. Explanation:

Execution of Means includes children's performance of the processes chosen for attaining their goal. With group activity, it may be that the group as a whole performs the processes, or it may be that the group divides into smaller groups, each performing a part of the processes. With individual activity, the individual child performs all the processes, with the assistance of the teacher.

II. Illustration:

"Oh, look," exclaimed Lonnie excitedly. "I brought down two Roly Polys out of three bowls."

"My time next," interrupted Neva.

"Five!" yelled Lonnie as he ran to the score board.

"Gee, I hit three," said Neva. "Oh, me! I wish I had been on the second line. It would have counted so much more."

"What's your score?" retorted John.

"Three!" yelled Neva, running to the score board.

III. Tests. Does each child exhibit any one of the following?

1. *For drive in execution of means.*
   (*a*) Voluntary performance of a particular mean.
   (*b*) Outside compulsion in performance of a particular mean.

2. *For response in execution of means.*
   (*a*) Overt performance of a particular mean.
   (*b*) Non-performance of a particular mean.

Activity Trait 9—Initiation of Improvement.

I. Explanation:

Initiation of Improvement includes children suggesting changes in the pursuit of their goal. It includes changes (1) in choice of means, *e.g.,* elimination, substitution, addition, or modification of processes; (2) in organization of means, *e.g.,* modification of the order in performing processes; and (3) in execution of means, *e.g.,* performance of neglected means. With group activity, the group as a whole initiates the improvements. With individual activity, the individual child initiates the improvements with the assistance of that teacher. The improvements may be initiated at the time a particular means is executed or they may be initiated after all means have been executed.

II. Illustration:

"I think I'll know better how to throw my balls next time," suggested Carl. "A lot depends on that."

"Some of the girls didn't stand with their toes on the line," criticized Kenneth. "I saw Neva with her whole foot over the line."

"I think I'll try the third line next time," remarked Jimmie. "It takes so long to make a good score on the first line."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in initiation of improvement.*
   (*a*) Voluntary proffering a particular improvement.
   (*b*) Outside compulsion in proffering a particular improvement.

2. *For response in initiation of improvement.*
   (*a*) Overt proffering a particular improvement.
   (*b*) Non-proffering a particular improvement.

Activity Trait 10—Evaluation of Improvement.

I. Explanation:

Evaluation of Improvement includes children discussing the desirability and practicability of suggested improvements. It involves discussion of (1) how to perform the improvements and (2) possibility of performing the improvements before making a choice. With group activity, the group as a whole evaluates the suggested improvements. With individual activity, the individual child evaluates the improvements with assistance of the teacher. Evaluation of suggested improvements may occur at the time the improvements are suggested, or it may occur after all improvements have been suggested.

II. Illustration:

"I think I'll try the third line next time," argued Jennie. "It takes so long to make a good score on the first line, no matter how lucky you are."

"Yes, and you won't make anything," objected Fred. "I can bring down a Roly Poly every time on the first line."

"I can too," retorted Jennie. "But it doesn't count much."

"Shucks, it counts more than missing all the bowls," argued Fred. "You'd never hit a Roly Poly from that back line."

"You just think so," broke in Jennie. "If I hit only one I'd make as much as you'd do with three bowls on the first line, see?"

III. Tests. Does each child exhibit any one of the following?

1. *For drive in evaluation of improvement.*
   (*a*) Voluntary discussion of how to perform a particular improvement.
   (*b*) Voluntary discussion of possibility of performing a particular improvement.
   (*c*) Outside compulsion in either (*a*) or (*b*).

2. *For response in evaluation of improvement.*
   (*a*) Overt discussion of how to perform a particular improvement.
   (*b*) Overt discussion of possibility of performing a particular improvement.
   (*c*) Non-participation in either (*a*) or (*b*).

Activity Trait 11—Choice of Improvement

I. Explanation:

Choice of Improvement includes children's selecting improvements to effect. Choice may be made at the time a particular improvement is evaluated, or it may be made after all improvements have been evaluated. With group activity, the group as a whole selects the improvements. With individual activity, the individual child selects the improvements with the assistance of the teacher. Choice

of improvement is usually indicated (in case of group activity) by voting. Either approval or disapproval of particular improvements counts as participation in choice of improvement.

II. Illustration:

"You would have done better, Carl, if you had rolled your balls from the bowling lines," suggested John. "You ought to practice rolling your balls."

"That's right," interrupted Christine. "I had the same trouble —seems I just had to pitch them."

"I'm sure going to practice rolling my balls," remarked Carl. "I can't make a good score pitching my balls at the Roly Polys."

"Me too," agreed Christine. "It's all in knowing how to roll your ball."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in choice of improvement.*
   (*a*) Voluntary approval or disapproval of a particular improvement.
   (*b*) Outside compulsion in approval of a particular improvement.
2. *For response in choice of improvement.*
   (*a*) Overt approval or disapproval of a particular improvement.
   (*b*) Non-approval of a particular improvement.

Activity Trait 12—Consummation of Improvement.

I. Explanation:

Consummation of Improvement includes children performing the improvement chosen to effect. It may occur at the time an improvement is chosen or it may occur after all improvements have been chosen. With group

activity, the group as a whole may perform the improvements, or it may divide into smaller groups, each performing a particular part of the improvements. With individual activity, the individual child performs the improvements with assistance of the teacher.

II. Illustration:

"Miss Burke," may I practice rolling my balls at the Roly Polys?" queried Carl. "I just can't roll them."

"When?" asked Miss Burke. "You know it's time to go home, don't you?"

"Yes," replied Carl quickly. "But I want to practice rolling my balls anyway. Mamma won't care."

"All right," agreed Miss Burke. "Put the Roly Polys away when you are through."

"Gee, Miss Burke, just see my balls roll," exclaimed Carl (on rolling his balls toward the Roly Polys). "I'll put the Roly Polys away, Miss Burke."

III. Tests. Does each child exhibit any one of the following?

1. *For drive in consummation of improvement.*
   (*a*) Voluntary performance of a particular improvement.
   (*b*) Outside compulsion in performance of a particular improvement.

2. *For response in consummation of improvement.*
   (*a*) Overt performance of a particular improvement.
   (*b*) Non-performance of a particular improvement.

Activity Trait 13—Leading to Further Goals.

I. Explanation:

Leading to Further Goals includes children suggesting associate goals during the pursuit of the goal under way.

Some goals intrinsically involve branching goals. These associate goals unfold as the pursuit of the goal under way continues, much the same as new shoots burst forth from the main trunk of certain plants during the process of growing. It often becomes evident to the child at the time that some one of the associate goals is worth while and subsequently is suggested for further activity. Associate goals may be suggested by the child at any one of the several steps in the pursuit of the goal under way, whether the activity be group or individual activity.

II. Illustration:

"Gee, I'd like to keep a record of our scores," remarked Willie, during a game of Roly Poly.

"Well, silly, why?" interrupted Mary. "Who cares for the old scores anyway? I don't."

"Why, I can tell who wins the most games," explained Willie. "I'm going to make a score booklet (Associate Goal) to keep a record of our score, when I play this game. Just watch me."

"Sure," agreed John. "I'll make one too."

"All right Willy, wait until you finish your game," suggested Miss Burke (teacher).

III. Tests.

1. *For drive in leading to further goals.*
   (*a*) Voluntary proffering associate goals.
   (*b*) Outside compulsion in proffering associate goals.

2. *For response in leading to further goals.*
   (*a*) Overt proffering associate goals.
   (*b*) Non-proffering associate goals.

Procedure for Using the Conduct Scale in the Measurement of Teaching

1. Uses of the Conduct Scale. The foregoing Conduct Scale has two important uses in the measurement of teaching. First, it may be used to measure teaching difficulties. It is, in this sense, a diagnosis scale. It reveals particular difficulties in the teacher's stimulation and direction of purposeful activity. Second, it may be used to measure teaching improvements. It is in this particular, an achievement scale. It reveals improvements in the teacher's stimulation and direction of purposeful activity.

2. Lines of Teaching Difficulties. Measurement of teaching in terms of the foregoing scale yields three major lines of teaching difficulties. The first analysis reveals particular strengths and weaknesses of children in particular traits of purposeful activity. This line of analysis indicates the traits on account of which a teacher has difficulty in stimulating and directing a child's response along its drive. The Individual Drive and Response Index of each child for particular traits of purposeful activity reveals this line of teaching difficulties. In the second place, it reveals particular strengths and weaknesses of children in a selected combination of traits, for example, initiation of goal, evaluation of goals, and choice of goal. This line of analysis indicates the combination of traits which causes the teacher difficulty in stimulating and directing a child's response along its drive. The Individual Drive and Response Index of each child for a selected combination of traits of purposeful activity reveals this line of teaching difficulties. The third analysis reveals the strengths and weaknesses of children in all traits of purposeful activity. This line

of analysis indicates the particular type of activities which causes the teacher difficulty in stimulating and directing a child's response along its drive. The Individual Drive and Response Index of each child for all the traits of purposeful activity reveals this line of teaching difficulties. Analysis of children's activities in terms of this scale yields, in this sense, three possible lines of teaching difficulties:

1. Difficulties in stimulating and directing a child's response along its drive in particular traits of purposeful activity.
2. Difficulties in stimulating and directing a child's response along its drive in a selected combination of traits of purposeful activity.
3. Difficulties in stimulating and directing a child's response along its drive in all traits of purposeful activity.

3. **Lines of Teaching Improvements.** Measurement of teaching in terms of the foregoing scale yields three lines of teaching improvements. The first line indicates improvements in children's conduct in particular traits of purposeful activity. It indicates, in this sense, improvements in the teacher's stimulation and direction of children's response along their drive in particular traits of purposeful activity. The Group Drive and Response Index for particular traits of purposeful activity reveals this line of teaching improvements. The second line indicates improvements in children's conduct in a selected combination of traits of purposeful activity, as, for example, initiation of goal, evaluation of goals, and choice of goal. This line of measurement indicates improvements in the teacher's stimulation and direction of children's response along their drive in a selected combination of traits of purposeful activity. The Group Drive and

Response Index for a selected combination of traits reveals this line of teaching improvement. The third line of measurement indicates improvements in children's conduct for all traits of purposeful activity. It reveals, in this sense, improvements in the teacher's stimulation and direction of children's response along their drive in a particular type of purposeful activity. The Group Drive and Response Index for all traits of a particular type of purposeful activity indicates this line of teaching improvements. Measurement of children's activities in terms of this scale yields, in this sense, three possible lines of teaching improvement:

1. Improvement in stimulating and directing children's response along their drive in particular traits of purposeful activity.

2. Improvements in stimulating and directing children's response along their drive in a selected combination of traits of purposeful activity.

3. Improvements in stimulating and directing children's response along their drive in all traits of purposeful activity.

Procedure for Using the Conduct Scale in Measuring Teaching Difficulties and Improvements

The following indicates the steps involved in the use of the Conduct Scale in measuring teaching difficulties and improvements:

1. Procedure for Measuring Teaching Difficulties:

(1) *Purpose of Measurement:* Decide on the line of teaching difficulty to measure, *i.e.,* whether difficulties in particular traits, selected combination of traits, or all traits of purposeful activity.

(2) *Nature of Activity:* Determine whether individual or group activity is to be used in measuring the teaching difficulty.

(3) *Selection of Activity:* Select a particular activity to measure the teaching difficulty.

(4) *Preparing the Activity Score Card:* Fill in the name of the activity, teacher, and children in the places provided for them on the Activity Score Card shown in Figure 1.

(5) *Scoring Drives and Responses:* Score the drives and responses of the children and teacher along the line of the teaching difficulty to be measured.

(6) *Preparing the Activity Index Card:* Fill in the names of the activity, teacher, and children in the places provided for on the Activity Index Card shown in Figure 2.

(7) *Computation of Individual Indices:* Compute the Individual Drive and Response Indexes for each child and the teacher along the line of teaching to be measured. Record the Indexes on the Activity Score Card under the proper activity traits.

(8) *Inventory of Teaching Difficulties:* Make an inventory of teaching difficulties as revealed by the Individual Drive and Response Indexes.

(9) *Order of Teaching Difficulties:* State the teaching difficulties in the order of their sequence in purposeful activity.

2. Procedure for Measuring Teaching Improvements:

(1) *Purpose of Measurement:* Decide on the line of teaching improvement to measure, *i.e.,* whether improvements in particular traits, selected combination of traits, or all traits of purposeful activity.

(2) *Nature of Activity:* Decide whether individual or group activity is to be used in measuring the line of teaching improvement.

(3) *Selection of Activities:* Select two comparable activities to measure the line of teaching improvement.

(4) *Method of Measurement:* Decide on the method of measurement, *i.e.,* whether Direct or Indirect Measurement of Teaching.

(5) *Scoring Drives and Responses:* Administer the method of measurement chosen to the line of teaching improvement to be measured.

(6) *Computation of Group Indices:* Compute the Group Drives (Response Indexes) for the line of teaching to be measured.

(7) *Preparing the Chart:* Fill in the name of the activities, teacher, grade, and index in the spaces provided for on the Improvement Chart shown in Figure 3.

(8) *Charting the Improvements:* Chart the Group Drives and Response Indexes for each activity along the line of teaching improvement to be measured.

(9) *Inventory of Teaching Improvement:* Make a list of the teaching improvements revealed by the improvement chart.

FURTHER DISCUSSION

1. Meriam, J. L., *Child Life and Curriculum,* Ch. 19.
2. McCall, W. A., *How to Measure in Education,* Chs. 1 and 3.
3. McCall, W. A., *How to Experiment in Education,* Ch. 5.
4. *Journal of Educational Method,* November, 1924, p. 94.
5. Dewey, John, *How We Think,* Ch. 6.
6. Kilpatrick, W. H., *Foundations of Method,* Ch. 13.

CHAPTER XII

SUPERVISORY GUIDANCE IN CHOICE OF TEACHING DIFFICULTIES

1. **Lines of Teaching Difficulties.** There are, as we have seen, three lines of teaching difficulties. The first line involves difficulties connected with the teacher's stimulation and direction of a child's response along its drive in particular traits of purposeful activity. The Individual Drive and Response Index for particular traits of purposeful activity reveals this line of teaching difficulties. The second line involves difficulties conected with the teacher's stimulation and direction of a child's response along its drive in a selected combination of traits of purposeful activity. The Individual Drive and Response Index for each of the selected combinations of traits reveals this line of teaching difficulties. The third line involves difficulties connected with the teacher's stimulation and direction of a particular child's response along its drive in all traits of purposeful activity. The Individual Drive and Response Index for all the traits of purposeful activity reveals this line of teaching difficulties. Briefly the lines of teaching difficulties are:

1. Difficulties in stimulating and directing a child's response along its drive in particular traits of purposeful activity.

2. Difficulties in stimulating and directing a child's response along its drive in a selected combination of traits of purposeful activity.

3. Difficulties in stimulating and directing a child's response along its drive in all traits of purposeful activity.

2. Procedures of Measurement. Measurement of teaching difficulties in terms of the foregoing scale demands a quantitative analysis of children's conduct in carrying forward particular school enterprises. It demands, in other words, an analysis of children's conduct in terms of weaknesses and strengths, for it is only through such an analysis that teaching difficulties can be reliably determined. There are two procedures for making such an analysis. The first is direct use of the scale in measuring children's drives and responses at the time and place they are made. It is direct because it takes place in the classroom at the time the enterprise is under way. This procedure may be designated as Direct Measurement of Teaching Difficulties. The second procedure is indirect use of the scale in measuring children's drives and responses. It involves measuring children's drives and responses as revealed by some written report. It is indirect because it takes place through some intermediary means, such as, for example, a stenographic report. This procedure may be designated as Indirect Measurement of Teaching Difficulties. The following procedures indicate the steps involved in both of these analyses:

A Suggestive Procedure for Direct Measurement of Teaching Difficulties

(1) Nature of Direct Measurement. Direct Measurement of teaching difficulties includes measurement of children's drives and responses at the time and place they function in carrying forward a particular school enterprise. It involves, for example, measurement of John's

drives and responses in, say, the initiation of goal at the time and place he initiates particular goals. It demands, as such, two distinct steps. First, it demands that the supervisor visit the classroom and check each child's drive and response (also the teacher's) at the time they are made. Second, it demands an analysis of the drives and responses of each child and the teacher in order to determine the teaching difficulties.

(2) **Conditions of Direct Measurement.** The primary condition of direct measurement of teaching difficulties is that such analysis should take place at the time and place children participate in school enterprises. This condition is demanded for two reasons. First, direct analysis of drives and responses is possible only at the time and place they function in the conduct of boys and girls. They manifest themselves only in conduct. Second, objective analysis is possible only at the time and place drives and responses function in children's conduct. They are observable only as they function in carrying forward particular enterprises.

Other conditions are demanded. Direct analysis of children's drives and responses should take place under normal conditions. Interference on the part of the supervisor or teacher should be avoided. The supervisor, for example, should avoid all unnecessary disturbances such as reminding children that this is measurement day, speeches, conspicuous movements in the schoolroom, or participation in the school enterprise. The teacher should likewise avoid any disturbances such as, for example, reminding children that they should do their best on measurement day, or reminding them that such a day is measurement day. All such disturbances upset the normal conditions that should obtain in the schoolroom at the time the measurement takes place. Boys and girls should

be permitted, in other words, to go about their work in a natural and normal way without any notion that they are being measured at the time. In addition the physical conditions of the schoolroom should be normal. Temperature, ventilation, etc., should be normal, at all times.

(3) Personnel and Frequency of Direct Measurement. It is quite necessary for the supervisor to analyze children's drives and responses in carrying forward particular enterprises. It is only through such an analysis that teaching difficulties are revealed. Such is paramount in the improvement of teaching, for the supervisor improves teaching through enabling particular teachers to ascertain their difficulties in the stimulation and direction of the purposeful activities of children. Diagnosis of children's drives and response is, for this reason, the first basic function of the supervisor. It cannot be delegated, for personal study of children's drives and responses is *sine qua non* in a thorough-going diagnosis of teaching difficulties.

Frequency of direct measurement of teaching difficulties depends upon several factors. In the first place, the number of teachers under a supervisor would be one conditioning factor. The larger the number the less frequent measurement, and vice-versa. Another factor would be proximity of teachers. If all the teachers were in one school building the supervisor would be able to conduct measurement more frequently than if the teachers were scattered all over the city, or rural county. Frequency of measurement is advisable and desirable in all cases. It should occur at rather short intervals, for example, weekly if possible.

(4) Steps in Direct Measurement. Following are the steps included in direct measurement of teaching difficulties:

(*a*) *Purpose of Measurement:* Decide on the line of teaching difficulty to measure, *i.e.,* whether difficulty in the stimulating and directing of children's response along their drive in particular traits, a selected combination of traits, or all traits of purposeful activity.

(*b*) *Nature of Activity:* Determine whether individual or group activity is to be used to measure the line of teaching difficulty to be revealed, *e.g.,* How John Makes His Wagon (individual activity) or How to Dramatize Little Red Riding Hood (group activity).

(*c*) *Selection of Activity:* Select a particular activity to measure the line of teaching difficulty sought to be revealed, *e.g.,* How to Dramatize Little Red Riding Hood.

(*d*) *Preparing the Score Card:* Fill in the name of the activity, teacher, and children in the places provided for on a blank Activity Score Card. Use the first name of each child and arrange in alphabetical order. Write the name of the teacher at the bottom of the list.

(*e*) *Scoring Drives and Responses:* Visit the classroom and score each child's drive and response (also the teacher's) along the line of teaching difficulty to be revealed, *e.g.,* if the line of difficulty involves initiation of goal, evaluation of goal, and choice of goal (selected combination of traits), score the drives and response of each child along these traits.

(*f*) *Computation of Individual Indexes:* Compute the Individual Drive Index and the Individual Response Index for each child and the teacher along the line of teaching difficulty to be revealed, *e.g.,* if the line of difficulty involves initiation of goal, evaluation of goal, and choice of goal (selected combination of traits), compute the Individual Drive and Response Index for each child and the teacher in these traits.

(*g*) *Inventory of Teaching Difficulties:* Study the Individual Drive and Response Indexes obtained and list the teaching difficulties revealed. State the difficulties in terms of non-drive and non-response on the part of particular children in the traits selected to reveal the line of teaching difficulties to be measured, *e.g.,* non-drive and non-response on the part of John in the initiation of goal in the dramatization of stories.

(*h*) *Order of Teaching Difficulties:* State the teaching difficulties in the order of their natural sequence in purposeful activity, *e.g.,* non-drive and non-response on the part of John in the initiation of goal in the dramatization of stories precedes non-drive and non-response in the evaluation of goals.

A Suggestive Procedure for Indirect Measurement of Teaching Difficulties

(1) Nature of Indirect Measurement. Indirect Measurement of teaching includes measurement of children's drives and responses as recorded in a written report. It involves, for example, measurement of Billie's drives and responses in, say, the initiation of goal as they are recorded in a written report. As such, indirect measurement includes two distinct steps. First, it demands some sort of a written report of the drives and responses made by the children and teacher in carrying forward a particular enterprise. Second, it demands an analysis of each child's drives and responses (also the teacher's) as revealed by a written report through the use of the Activity Score Card, in order to determine the teaching difficulties.

(2) Means of Securing Reports. There are at least three means for securing reports of children's drives

and responses in carrying forward school enterprises. They are the stenographer, dictograph, diary and survey. Of these, the first is in all probability the most feasible, for most schools already have on their staffs one or more stenographers. The dictograph method is also entirely feasible and exceedingly reliable, for it is wholly impersonal. In some cases the dictograph might be more economical than the stenographer. Diaries and surveys are also feasible since they may be made by individual children, teachers, parents, and supervisors. They are subject to many personal errors and for this reason they are not so reliable as the stenographic and dictographic methods. The stenographer or dictograph seems on the whole to be the most feasible and reliable method for securing reports of children's drives and responses.

(3) **Conditions in Making Reports.** The prime essential underlying making reports of children's drives and responses is that it should take place under normal conditions. Interference on the part of the stenographer, for example, should be avoided in every instance. She should avoid giving directions in the presence of children, or making conspicuous her presence in the schoolroom. The teacher should likewise avoid any disturbance. She should refrain from reminding the children that they should do their best, or that a report is being made of their conduct. All such disturbances upset the normal conditions that should prevail in the classroom at the time the report is being made. Children should be permitted to go about their work in a natural and normal way without any notion that a report is being made of their conduct. Physical conditions of the classroom should be normal, such as, for example, temperature, ventilation, etc.

(4) Personnel and Frequency of Indirect Diagnosis. The personnel of indirect diagnosis of teaching should be the same as suggested for direct diagnosis of teaching. The supervisor should conduct the two methods of diagnosis so as to insure reliable results. The only possible addition to the personnel of indirect diagnosis would be a stenographer.

The factors conditioning frequency of direct diagnosis of teaching apply to indirect diagnosis. These factors are discussed under direct diagnosis. Indirect diagnosis should occur as often as feasible—for example, weekly if possible. It should occur frequently so that the two methods may serve as a check upon the results obtained by each other.

(5) Steps in Indirect Measurement of Teaching Difficulties. Following are the steps included in indirect measurement of teaching difficulties:

(*a*) *Purpose of Measurement:* Determine the line of teaching difficulty to measure, *i.e.,* whether difficulty in the stimulation and direction of children's response along their drive in particular traits, selected combination of traits, or all traits of purposeful activity.

(*b*) *Nature of Activity:* Determine whether individual or group activity is to be used to measure the line of teaching difficulty to be revealed, *e.g.,* How John Makes His Wagon (individual activity) or How to Dramatize Little Red Riding Hood (group activity).

(*c*) *Selection of Activity:* Select a particular activity to measure the line of teaching difficulty to be revealed, *e.g.,* How to Dramatize Little Red Riding Hood.

(*d*) *Method of Securing Report:* Determine the method for securing a report of the activity selected to measure, *e.g.,* stenographic report, dictograph report, or diary.

(*e*) *Making the Report:* Visit the classroom and make a report, *e.g.,* stenographic report of the activity selected to measure.

(*f*) *Preparing Score Card:* Fill in the name of the activity, teacher, and children in the places provided for on a blank Activity Score Card. Use first name of child and arrange in alphabetical order. Write name of teacher at bottom of the list.

(*g*) *Scoring Drives and Responses:* Check all the drives and responses made by each child and the teacher as revealed by the written report along the line of teaching difficulty to be measured, *e.g.,* if the line of teaching difficulty to be revealed involves initiation of goal, evaluation of goal, and choice of goal (selected combination of traits), check all the drives and response of each child and teacher (as revealed by the written report) along these traits.

(*h*) *Computation of Individual Indexes:* Compute the Individual Drive and Response Index for each child and the teacher along the line of teaching difficulty to be revealed, *e.g.,* if the line of teaching difficulty involves initiation of goal, evaluation of goal, and choice of goal (selected combination of traits), compute the Individual Drive and Response Index from the total scores made by each child and the teacher in these traits.

(*i*) *Inventory of Teaching Difficulties:* Study the Individual Drive and Response Indexes obtained and list the teaching difficulties revealed. State the difficulties in terms of non-drive and non-response on the part of particular children in the traits selected to reveal the line of teaching difficulty to be measured, *e.g.,* non-drive and non-response on the part of John in the initiation of goal in the dramatization of stories.

(*j*) *Order of Teaching Difficulties:* State the teaching

difficulties in the order of their natural sequence in activity, *e.g.,* non-drive and non-response on the part of John in the initiation of goal in the dramatization of stories precedes non-drive and non-response in the evaluation of goals.

3. **Advantages and Disadvantages of Direct and Indirect Diagnosis.** Indirect diagnosis of teaching has some advantages over direct diagnosis of teaching, as well as some disadvantages. Indirect diagnosis, in the first place, is more impersonal. The stenographer or the dictograph is less interested personally in the conduct of boys and girls than a teacher or supervisor. They have a tendency to record both good and bad phases of children's conduct while a teacher or supervisor might have a tendency to record only the good points (in some cases only the bad points) of their conduct. In the second place, indirect diagnosis is more detailed than direct diagnosis. The stenographic report, for example, reproduces every detailed drive and response made by the children and teacher. In many instances some of these detailed drives and responses might be overlooked by the teacher or supervisor in direct diagnosis. In the third place, indirect diagnosis allows for more careful study of children's drives and responses than does direct diagnosis. Indirect diagnosis, for example, allows time to study carefully each drive and response in relationship to the whole activity or any of its parts, while the direct diagnosis recording of particular drives and responses must take place instantly at the time they occur in carrying forward the enterprise. This longer time for study insures a more accurate and reliable diagnosis of teaching. In the fourth place, the data of indirect diagnosis are more helpful to the teacher than are the data of direct diagnosis. The stenographic report, for example, sup-

plies the teacher with detailed information regarding her schoolroom work. It enables her to study in detailed and objective fashion the conduct of each individual child in carrying forward an enterprise as well as her own conduct in such an enterprise. Such data are, in this sense, extremely suggestive, for they give teachers a detailed view of the whole schoolroom procedure as it occurred in carrying forward particular enterprises.

Indirect diagnosis of teaching has, on the other hand, some disadvantages over the direct diagnosis. In the first place, it is impossible to record the genuineness of children's drives and responses by means of indirect diagnosis. Children's drives and responses, as recorded by the stenographer, for example, might be exceedingly artificial in the sense that they might be the result of many artificial factors controlling the schoolroom situation such as, for example, "stage-setting" prior to making the report, prizes and rewards, frowns of the teacher, threats of punishment, etc. These are all contributing factors that tend to lessen the genuineness of children's drives and responses. They are facts that do not occur in stenographic or dictographic reports since these agencies cannot set down with any degree of reliability the environing situation that produces children's drive and responses. This weakness alone would tend to invalidate the trustworthiness of indirect diagnosis if it were the sole means of diagnosis. It is quite necessary to secure an accurate report of the number of drives and responses made by each child in carrying forward a particular enterprise. Indirect diagnosis yields this result. It is extremely reliable in this particular. But it is quite as necessary to secure a report of the genuineness of children's drives and responses. Direct diagnosis yields this result. It is more reliable in this particular than indirect diagnosis. In the

second place, direct diagnosis is more helpful to the supervisor in guiding the teacher than is indirect diagnosis. Direct diagnosis affords the supervisor an opportunity to secure first-hand data of the whole schoolroom situation. It gives her personal information of the type of stimuli prevailing in the schoolroom, the drive and response of each child, the conduct of the teacher, artificiality or realness of the school environment, etc. It furnishes the supervisor, in this sense, with many of the casual factors making for or against the genuineness of children's drives and responses. This personal knowledge of the situation is exceedingly helpful to the supervisor in assisting the teacher to formulate procedures for improving particular teaching difficulties. The advantages and disadvantages of indirect and direct diagnosis of teaching may be summarized as briefly as follows:

Advantages of Indirect Diagnosis	*Disadvantages of Direct Diagnosis*
1. More accurate inventory of drives and responses.	1. Less accurate inventory of drives and responses.
2. More helpful to individual teachers.	2. Less helpful to individual teachers.

Disadvantages of Indirect Diagnosis	*Advantages of Direct Diagnosis*
1. Less accurate report of the genuineness of drives and responses.	1. More accurate report of the genuineness of drives and responses.
2. Less helpful to individual supervisors.	2. More helpful to individual supervisors.

4. Relation of Indirect and Direct Diagnosis of Teaching. Indirect diagnosis is, as we have seen, not

a valid diagnosis if it is the sole method of diagnosing teaching. It does not yield a valid report of the genuineness of children's drives and responses; nor does it yield satisfactory data for the supervisor to guide a teacher in formulating particular teaching procedures. Direct diagnosis, on the other hand, is not reliable if it is the sole method of diagnosing teaching. It does not yield a reliable report of the number of drives and responses made in an enterprise; nor does it yield satisfactory data for the individual teacher to get a detailed picture of her schoolroom situation. Neither method of diagnosis teaching, in other words, produces a valid, reliable, and objective report of teaching, if used alone. Trustworthy and helpful diagnosis of teaching demands that both methods be used. Indirect diagnosis should be used along with the direct diagnosis to yield an accurate account of children's drives and responses and to secure helpful data for the teacher in getting a detailed picture of her teaching. Direct diagnosis should, on the other hand, be used along with the indirect diagnosis to yield an accurate report of the genuineness of children's drives and responses and to secure helpful data for the supervisor to guide teachers in formulating particular procedures. Both methods of diagnosis teaching are, in this sense, indispensable in a valid, reliable, and objective diagnosis of teaching. One yields the number of drives and responses; the other yields the genuineness of drives and responses.

5. **Contrast with Conventional Diagnosis of Teaching.** Direct and indirect diagnosis of teaching contrasts quite sharply with conventional diagnosis of teaching. In the first place, conventional diagnosis seeks to find out whether the teacher has "covered" the prescribed subject-matter of the traditional school subjects within

the allotted time. Effort is directed in this respect to ascertain whether boys and girls can reproduce this subject-matter, and if so, the teacher is marked efficient. Direct and indirect diagnosis seeks a different end. It endeavors to reveal changes in the conduct of boys and girls. Effort in this sense is directed toward finding out whether boys and girls are improving in their conduct, and if so, the teacher is judged efficient. In one case diagnosis endeavors to reveal how well boys and girls can reproduce ready-made subject-matter; in the other case how well boys and girls participate in enterprises. One seeks improvement in reproduction of ready-made facts; the other seeks improvement in conduct. In the second place, conventional diagnosis of teaching assumes that the process of teaching consists of prescribing, questioning, listening, and testing. Effort is directed towards ascertaining weaknesses of the teacher in these particulars. The New York Teacher Rating Scale illustrates this fact.* It includes such items as "skill in questioning," "skill in presentation," "power to interest," "thoroughness of drill," and the like. These all apply solely to the teacher's method of presenting ready-made subject-matter and for this reason they are external to the process of growing in boys and girls. "If child nature doesn't fit the molds provided, the teacher squeezes it, jams it, and prunes it. It must fit." Teaching in this sense is truly a farce. It converts the school into a "pumping station" of the first order. And the teacher is judged in terms of her skill in "pumping."

Direct and indirect diagnosis of teaching, on the other hand, assumes teaching to be a process of stimulating and directing the purposeful activities of boys and girls. Ef-

*McMurry, F. M., *Elementary School Standards,* pp. 195–201.

fort is directed toward analyzing the functioning of the traits of purposeful activity in the conduct of children in order to discover the non-functioning drives and responses. The teacher is judged in terms of improvement in the functioning of such non-functioning drives and responses in the conduct of boys and girls. The school in this sense becomes a laboratory—a place for boys and girls to create, to make, to find out, to reach onwards. And teaching is stimulating and directing this creating, making, finding out, reaching onwards. Teaching in this sense is truly creative for it enables boys and girls to do better in the pursuit of their purposes.

This difference in diagnosis of teaching is profound. It is a result of a difference in the interpretation of education and teaching. Conventional diagnosis is founded upon an interpretation of education as the assimilation and reproduction of ready-made subject-matter (traditional school subjects). Consequently teaching is interpreted as the process of injecting into, and pumping out, of boys and girls facts of the traditional school subjects. It is in this sense a process of prescribing, questioning, listening and testing—all so familiar in many of our schools. Direct and indirect diagnosis of teaching, on the other hand, is founded upon an interpretation of education as continuous growing of boys and girls. It is continuous change in the conduct of children. Teaching, consequently, is stimulating and directing the purposeful activities of boys and girls, for it is in and through such enterprises that changes in conduct takes place. As such, it is a process of providing a rich stimulating environment and seeing that success attends the responses of children, for purposeful activity demands, on the one hand, suitable stimuli, and, on the other hand, successful response.

FURTHER DISCUSSION

1. Collings, Ellsworth, *An Experiment with a Project Curriculum*, pp. 321–335.
2. Burton, C. H., *Supervision and the Improvement of Teaching*, Ch. 15.
3. Kilpatrick, W. H., *The Project Method*, p. 17.
4. McMurry, F. M., *Elementary School Standards*, pp. 195–201.

CHAPTER XIII

ILLUSTRATIONS OF DIRECT MEASUREMENT OF TEACHING DIFFICULTIES

The following illustrates the steps in Direct Measurement of Teaching Difficulties:

Illustration I—Direct Measurement of a Construction Project in Art.

1. *Purpose of Measurement.* The supervisor selected the first line of teaching difficulty to measure, namely, difficulties involved in stimulating and directing particular traits of purposeful activity (evaluation of goals, evaluation of means, and evaluation of improvements).

2. *Nature of Activity.* The supervisor selected a second grade individual activity in art construction.

3. *Selection of Activity.* The supervisor selected How Sadie Made Her Flower Vase.

4. *Preparing the Score Card.* The supervisor filled in the names of the activity, child, and teacher, the grade and date in the places provided for on the Activity Score Card.

5. *Scoring Drives and Responses.* The supervisor scored the drives and responses of each child and the teacher for each of the selected traits. The scores are shown in Figure 4.

6. *Computation of Individual Indexes.* The supervisor computed the Drive and Response Index for the child and the teacher for each of the selected traits. These Indexes are shown in Figure 5.

THE ACTIVITY SCORE CARD USED IN DIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF AN INDIVIDUAL ACTIVITY

Activity Boys Sadie Wade Her Flower Vase Grade 2nd

Teacher Miss Jones Date 4/12/21

PUPILS	Drive and Response	ACTIVITY TRAITS: Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
Sadie	D		/			//					/					
	R		/			//					/					
Teacher	D		///			///////					//////					
	R		///			///////					//////					
	D															
	R															
	D															
	R															
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	R															
	D															
	R															
Group Total	D															
	R															
Group Index	D															
	R															

FIG. 4, PAGE 168.

THE ACTIVITY INDEX CARD USED IN DIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF AN INDIVIDUAL ACTIVITY

Activity: How Sadie Made Her Flower Vase — Grade: 2nd

Teacher: Miss Jones — Date: 4/2/21

PUPILS	Drive and Response Index	ACTIVITY TRAITS: Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals
Sadie	D		100			100					100			
	R		25			20					10			
Teacher	D		100			100					100			
	R		75			80					90			

FIG. 5, PAGE 169.

7. *Study of Indexes.* The Drive Index is 100 for each of the selected traits. This indicates that this child possessed a drive to evaluate the goals in question, to evaluate the suggested means, and to evaluate the suggested improvements. The Response Index, on the other hand, is extremely low for the child and high for the teacher. It indicates, on the one hand, that the child made few responses, and, on the other hand, it indicates that the teacher made many.

8. *Inventory of Teaching Difficulties.* The Drive Index indicates, in this instance, proficiency in the teacher's stimulation. It indicates that the teacher in question provided suitable stimuli—materials, tools, etc. The Response Index, on the other hand, indicates weakness in the teacher's direction. It indicates inability of the teacher in question to enable the child to evaluate the suggested goals, means, and improvements. The Response Index indicates difficulties on the part of the teacher to direct the child's response along its drive in these traits. The difficulties are:

(1) Non-response on the part of Sadie in the evaluation of goals in art construction.

(2) Non-response on the part of Sadie in the evaluation of means in art construction.

(3) Non-response on the part of Sadie in the evaluation of improvements in art construction.

9. *Order of Teaching Difficulties.* The following indicates the order in which the foregoing difficulties occur in teaching:

(1) Non-response on the part of Sadie in the evaluation of goals in art construction.

(2) Non-response on the part of Sadie in the evaluation of means in art construction.

(3) Non-response on the part of Sadie in the evaluation of improvements in art construction.

Illustration II—Direct Measurement of a Construction Project in Wood.

1. *Purpose of Measurement.* The supervisor selected the second line of teaching difficulty to measure, namely, difficulties involved in the stimulation and direction of a selected combination of traits of purposeful activity (initiation of improvement, evaluation of improvement, choice of improvement, and consummation of improvement).

2. *Nature of Activity.* The supervisor selected a fourth-grade individual activity in manual training.

3. *Selection of Activity.* The supervisor selected for measurement How John Makes His Wagon (individual activity).

4. *Preparing the Score Card.* The supervisor filled in the name of the activity, name of the child, name of the teacher, the grade, and date in the places provided for on an Activity Score Card.

5. *Scoring Drives and Responses.* The supervisor visited the Manual Training Shop and scored the drives and responses of the child and teacher in question along the line of teaching difficulty to be revealed. The scores are shown in Figure 6.

6. *Computation of Individual Indexes.* The supervisor computed the Drive and Response Index from the scores obtained by the child and teacher in the traits selected for measurement. These Indexes are shown in Figure 7.

THE ACTIVITY SCORE CARD USED IN DIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF AN INDIVIDUAL ACTIVITY

Activity: Hoed John Wade's Tie Wagon — Grade: 4th

Teacher: Mr. Jones — Date: 10/15/25

PUPILS	Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
		ACTIVITY TRAITS														
John	D									/	//	/	//			
	R									/	//	/	//			
Mr. Jones	D															
	R															
	D															
	R															
	D															
	R															
	D															
	R															
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	D															
	R															
	D															
	R															
Group Total	D															
	R															
Group Index	D															
	R															

FIG. 6, PAGE 170.

THE ACTIVITY INDEX CARD USED IN DIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF AN INDIVIDUAL ACTIVITY

Activity How John Made His Wagon Grade 4th

Teacher Mr. Jones Date 10/15/25

ACTIVITY TRAITS

PUPILS	Drive and Response Index	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals
John	D									100	100	100	100	
	R									9	16	9	20	
Mr. Jones	D									100	100	100	100	
	R									91	84	91	80	
	D													
	R													
	D													
	R													
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	D													
	R													
	D													
	R													
Group Total	D													
	R													
Group Index	D													
	R													

FIG. 7, PAGE 171.

7. *Study of Indexes.* The foregoing Activity Index Card reveals, in the first place, that John possessed a drive to find and effect improvement in the construction of his wagon. His Drive Index is 100 for each of the selected traits in question. This indicates that he had a drive to initiate, evaluate, choose, and consummate improvements in the construction of his wagon. He was in a state of readiness to engage in these traits. In the second place, the Response Index for the selected traits indicate that John made few responses in the initiation, evaluation, choice and consummation of improvement in the construction of his wagon. His Response Index ranges from 9 to 20 in the selected traits. The teacher's Response Index further reveals this fact. His Response Index ranges from 80 to 91 in the selected traits. This indicates that the teacher initiated, evaluated, chose and consummated practically all of the improvements in this instance.

8. *Inventory of Teaching difficulties.* The Drive Index in the foregoing instance indicates that the teacher in question was very proficient in the stimulation of John's response along his drive in the initiation, evaluation, choice and consummation of improvement. It indicates that the teacher provided suitable stimuli—wood, tools, etc. The Response Index indicates, on the other hand, inability of the teacher in question to direct (enable) John's response along his drive in these traits. This fact is indicated by the low Response Index of John and the high Response Index of the teacher. These Indexes reveal difficulties on the part of the teacher in question to direct the child's response along its drive in this particular selected combination of traits (initiation, evaluation, choice and consummation of improvement). The teaching difficulties revealed by this analysis are:

1. Non-response on the part of John in the Initiation of Improvement in construction activities.

2. Non-response on the part of John in the Evaluation of Improvement in construction activities.

3. Non-response on the part of John in the Choice of Improvement in construction activities.

4. Non-response on the part of John in the Consummation of Improvement in construction activities.

Illustration III—Direct Measurement of a Dramatization Project.

1. *Purpose of Measurement.* The supervisor selected the third line of teaching difficulty to measure, namely, difficulties involved in stimulating and directing all the traits of purposeful activity.

2. *Nature of Activity.* The supervisor selected a second grade group activity in dramatization of stories.

3. *Selection of Activity.* The supervisor selected the dramatization of the Gingerbread Man Story.

4. *Preparing the Score Card.* The supervisor filled in the names of the activity, children, and teacher, the grade and date in the places provided for on the Conduct Score Card.

5. *Scoring Drives and Responses.* The supervisor visited the classroom and scored the drives and responses of each child and the teacher for all the traits of purposeful activity. The scores are shown in Figure 8.

6. *Computation of Individual Indexes.* The supervisor computed the Drive and Response Index for each child for all the traits of purposeful activity. These Indexes are shown in Figure 9.

7. *Study of Indexes.* The foregoing Activity Index Card reveals, in the first place, that all the boys and girls

THE ACTIVITY SCORE CARD USED IN DIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF A GROUP ACTIVITY

Activity Dramatization of the Gingerbread Man Story Grade 2nd

Teacher Miss Smith Date 6/20/25

PUPILS	Drive and Response	ACTIVITY TRAITS: Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
Betty	D	/	/	/	////	/	///	////	////	//	/	///	/	//		
	K	/	/	/	////	/	///	////	////	//	/	///	/	//		
Betty	D	/	/	/	////	/	///	////	////	//	/	//	/	/		
	K	/	/	/	////	/	///	////	////	//	/	//	/	/		
Carl	D	/	/	/	////	/	///	////	////	//	/	//	/	/		
	R	/	/	/	////	/	///	////	////	//	/	//	/	/		
Carrie	D	/	/	/	////	/	///	////	////	//	/	///	/	/		
	R	/	/	/	////	/	///	////	////	//	/	///	/	/		
Doris	D	/	/	/	////	/	///	////	////	//	/	////	/	///		
	R	/	/	/	////	/	///	////	////	//	/	////	/	///		
Donald	D	/	/	/	////	/	///	////	////	//	/	////	//	//		
	R	/	/	/	////	/	///	////	////	//	/	////	//	//		
Fred	D	/	/	/	////	/	///	////	////	//	/	////	/	//		
	R	/	/	/	////	/	///	////	////	//	/	////	/	//		
Gay	D	/	/	/	///	/	////	////	////	//	/	///	/	//		
	R	/	/	/	////	/	////	////	////	//	/	///	/	//		
Jane	D	/	/	/	////	/	////	////	////	/	/	///	/	//		
	R	/	/	/	////	/	////	////	////	/	/	///	/	//		
Jola	D	/	/	/	////	/	////	////	////	///	/	///	/	//		
	R	/	/	/	////	/	///	////	////	///	/	///	/	//		
John	D	/	/	/	////	/	////	////	////	//	/	///	/	/		
	R	/	/	/	////	/	////	////	////	//	/	///	/	/		
June	D	/	/	/	////	/	////	////	////	//	/	///	/	//		
	R	/	/	/	////	/	////	////	////	//	/	///	/	//		
Julia	D	/	/	/	////	/	///	////	////	/	/	///	/	///		
	R	/	/	/	////	/	///	////	////	/	/	///	/	///		
Mary	D	/	/	/	////	/	////	////	////	//	/	///	/	//		
	R	/	/	/	////	/	////	////	////	//	/	///	/	//		
Pete	D	/	/	/	////	/	////	////	////	//	/	///	/	//		
	R	/	/	/	////	/	////	////	////	//	/	///	/	//		
Pauline	D	/	/	/	////	/	////	////	////	//	/	///	/	//		
	R	/	/	/	////	/	////	////	////	//	/	///	/	//		
Opal	D	/	/	/	////	/	////	////	////	//	/	///	/	//		
	R	/	/	/	////	/	////	////	////	//	/	///	/	//		
Ora	D	/	/	/	////	/	////	////	////	//	/	////	/	//		
	R	/	/	/	////	/	////	////	////	//	/	////	/	//		
Pat	D	/	/	/	////	/	////	////	////	//	/	//	/	///		
	R	/	/	/	////	/	////	////	////	//	/	//	/	///		
Teacher	D	0	////	0	///	////	0	0	0	0	////	0	0	0		
	R	0	////	0	///	////	0	0	0	0	////	0	0	0		
Group Total	D															
	R															
Group Index																

FIG. 8, PAGE 172.

THE ACTIVITY INDEX CARD USED IN DIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF A GROUP ACTIVITY

Activity Dramatization of the Gingerbread Man Story Grade 2nd

Teacher Miss Smith Date 6/20/25

PUPILS	Drive and Response Index	ACTIVITY TRAITS: Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals
Betty	D	100	100	100	100	100	100	100	100	100	100	100	100	100
	R	100	66	100	100	70	100	100	75	100	66	100	100	100
Bobby	D	100	100	100	100	100	100	100	100	100	100	100	100	100
	R	100	66	100	80	70	100	100	100	100	66	66	100	50
Carl	D	100	100	100	100	100	100	100	100	100	100	100	100	100
	R	100	66	100	80	70	100	100	100	100	66	66	100	50
Carrie	D	100	100	100	100	100	100	100	100	100	100	100	100	100
	R	100	66	100	100	70	100	100	83	100	66	100	100	50
Doris	D	100	100	100	100	100	100	100	100	100	100	100	100	100
	R	100	66	100	100	70	100	100	100	100	66	133	100	150
Donald	D	100	100	100	100	100	100	100	100	100	100	100	100	100
	R	100	66	100	100	70	100	100	100	100	66	133	100	150
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
Fred	R	100	66	100	100	70	75	100	100	100	66	133	100	100
	D	100	100	100	75	100	100	100	100	100	100	100	100	100
Guy	R	100	66	100	80	70	100	100	100	100	66	100	100	100
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
Iona	R	100	66	100	100	70	100	100	100	50	66	100	100	100
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
Ida	R	100	66	100	120	70	100	100	110	150	66	100	100	100
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
John	R	100	66	100	100	70	100	83	110	100	66	100	100	50
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
June	R	100	66	100	100	70	100	100	100	100	66	100	100	100
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
Julia	R	100	66	100	120	70	100	100	110	100	66	100	100	150
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
Mary	R	100	66	100	100	70	100	110	110	100	66	100	100	100
	D	100	100	100	85	100	100	100	100	100	100	100	100	100
Ned	R	100	66	100	120	70	100	100	100	100	66	100	100	100
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
Pearl	R	100	66	100	100	70	100	100	100	100	100	100	100	100
	D	100	100	100	85	100	100	100	100	100	66	100	100	100
Ora	R	100	66	100	120	70	100	110	100	100	100	133	100	100
	D	100	100	100	100	100	100	100	100	100	100	100	100	100
Pat	R	100	66	100	120	70	100	110	100	100	66	66	100	150
	D	0	100	0	100	100	0	0	0	0	100	0	0	0
Teacher	R	0	600	0	60	570	0	0	0	0	666	0	0	0
	D													
	R													
	D													
	R													

FIG. 9, PAGE 173.

in this instance possessed a drive to pursue the dramatization of the Gingerbread Man. The Drive Index of each child for each individual trait indicates this fact. It is 100 in every case. This indicates that the drive in this instance came from the children. They were in a state of readiness to pursue this study. In the second place, the Response Indexes indicate that each child made his share of the responses in each individual trait except in the evaluation of goals, means, and improvement. These Indexes range from 75 to 133 with practically all of them 100 except in the evaluation of goals, means, and improvement. The teacher's Response Index also indicates this fact. It is zero for each individual trait, except evaluation of goals, means, and improvement. Study of the Response Index of each child for each individual trait indicates two things. First, it indicates that the children in this instance initiated and chose the goal (the story to dramatize); initiated, chose and organized the means (things necessary to do in the dramatization); executed the means (did the things necessary); initiated, chose, and consummated the improvement (found and corrected their mistakes); and originated other goals (suggested other things to do). Second, it indicates that the teacher did practically all of the evaluation of goals (pointed out the desirability and practicability of the suggested goals), the evaluation of means (pointed out desirability and practicability of the suggested means), and the evaluation of the improvements (pointed out the desirability and practicability of the suggested improvements).

8. *Inventory of Teaching Difficulties.* The Drive Index of each child for each individual trait indicates that the teacher was very proficient in stimulating all the traits of purposeful activity. It indicates that the teacher,

in this instance, provided suitable stimuli—varied stories.

The Response Index of each child indicates that the teacher was very proficient in directing all the traits of purposeful activity except in the evaluation of goals, evaluation of means, and evaluation of improvement. The Response Index for these traits is slightly above 50 for all of the children. This fact coupled with the high Response Index of the teacher for these traits indicates difficulties on the part of the teacher in directing children's response along their drive in these three traits.

In brief, the teaching difficulties revealed by the analyses are:

(1) Non-response on the part of all the children in the evaluation of goals.

(2) Non-response on the part of all the children in the evaluation of means.

(3) Non-response on the part of all the children in the evaluation of improvement.

9. *Order of Teaching Difficulties.* The following indicates the order in which the foregoing teaching difficulties occur in teaching:

(1) Non-response on the part of all the children in the evaluation of goals.

(2) Non-response on the part of all the children in the evaluation of means.

(3) Non-response on the part of all the children in the evaluation of improvement.

FURTHER DISCUSSION

1. MERIAM, J. L., *Child Life and Curriculum*, Ch. 19.
2. *Journal of Educational Method*, November, 1924, p. 94.

CHAPTER XIV

ILLUSTRATIONS OF INDIRECT MEASUREMENT OF TEACHING DIFFICULTIES

The following illustrates the steps involved in Indirect Measurement of Teaching Difficulties.

Illustration I—Indirect Measurement of a Skill Project.

1. *Purpose of Measurement.* The supervisor selected the first line of teaching difficulty to measure, namely, difficulties involved in stimulating and directing particular traits of purposeful activity (initiation of goal, initiation of means, and initiation of improvement).

2. *Nature of Activity.* The supervisor selected a third grade individual activity in skill projects.

3. *Selection of Activity.* The supervisor selected How Bobby Added His Roly Poly Scores.

4. *Method of Securing the Report.* The supervisor selected the stenographic method for securing a report of the foregoing activity.

5. *Making the Report.* The stenographer visited the classroom and made a stenographic report of the work. The report is shown on page 177.

6. *Preparing Score Card.* The supervisor filled in the name of the activity, name of pupil, name of teacher, grade, and date on the places provided for on the Activity Score Card.

7. *Scoring Drives and Responses.* The supervisor

scored the drives and responses of the child and teacher for the particular traits selected (initiation of goal, initiation of means, and initiation of improvement) as recorded in the foregoing stenographic report. The scores are shown in Figure 10.

8. *Computation of Individual Indexes.* The supervisor computed the Drive and Response Index for the child and teacher for the particular traits selected (initiation of goal, initiation of means, and initiation of improvement). These Indexes are shown in Figure 11.

9. *Study of Indexes.* The Drive Index is 100 for each of the selected traits. This indicates that the child was in a state of readiness to initiate the goal in question, to initiate the necessary means, and to initiate the improvements in the line of endeavor. The Response Index indicates that the child made practically all of the responses in these traits. It is 100 for initiation of goals, 89 for initiation of means, and 100 for initiation of improvement. The teacher's Response Index further indicates the fact. It is zero for two traits and only 11 for the other one.

10. *Inventory of Teaching Difficulties.* The Drive Index in this instance indicates proficiency in the teacher's stimulation. It indicates that the teacher in question provided suitable stimuli—materials, tools, etc. The Response Index indicates proficiency in the teacher's direction. It indicates that the teacher enabled the pupil in question to respond successfully in these traits. These Indexes, in brief, reveal no teaching difficulties in the teacher's stimulation and direction of Bobby's response along his drive in the initiation of the goal in question, initiation of the necessary means, and initiation of improvements.

11. *Order of Teaching Difficulties.* Since this analy-

THE ACTIVITY SCORE CARD USED IN INDIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF AN INDIVIDUAL ACTIVITY

Activity: How Bobby Added His Roly Poly Scores Grade: 3rd

Teacher: Miss Burke Date: 7/12/25

PUPILS		ACTIVITY TRAITS																
	Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
Bobby	D	/			////////					/						
	R	/			////////					/						
Teacher	D				/											
	R				/											
	D															
	R															
	D															
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	D															
	R															
Group Total	D															
	R															
Group Index	D															
	R															

FIG. 10, PAGE 176.

THE ACTIVITY SCORE CARD USED IN INDIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF AN INDIVIDUAL ACTIVITY

Activity How Bobby Added His Poly Poly Scores Grade 3rd

Teacher Miss Burke Date 1/21/25

PUPILS	Drive and Response Index	ACTIVITY TRAITS- Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals
Bobby	D	100			100					100				
	R	100			89					100				
Teacher	D	0			100					0				
	R	0			11					0				

FIG. 11, PAGE 177.

sis indicates no teaching difficulties this step does not occur.

STENOGRAPHIC REPORT OF HOW BOBBY ADDED HIS ROLY POLY SCORES

I. *Purposing:*

"Miss Burke, won't you show me how to add my Roly Poly scores?" queried Bobby at the end of a Roly Poly Game. "I lost the game because I made a mistake,—see?"

"Sure," replied Miss Burke. "When would you like for me to help you?"

"This afternoon at the Skill Project period," explained Bobby. "I'd like to learn how to add so I'll make no more mistakes."

"All right, Bobby, I'll help you this afternoon," agreed Miss Burke.

"I'll bring my score book," interrupted Bobby. "And my pencil too."

II. *Planning:*

"Just look at my Roly Poly scores, Miss Burke," insisted Bobby (at the Skill Project period). "I have a whole book of them."

"Well, I think so, Bobby," replied Miss Burke. "I didn't know you had played that many games."

"Oh, I haven't at school," explained Bobby. "I played some at home. My mamma bought me some Roly Polys."

"I guess that's why you are such a good player," interrupted Miss Burke. "I noticed you made next to the highest score today."

"I made the highest score," broke in Bobby. "I made a mistake in adding my scores is why I made second place."

"Well, that was too bad," sympathized Miss Burke. "I guess that's why you want to learn how to add."

"Sure," exclaimed Bobby. "I don't want to make that mistake again."

"I see," agreed Miss Burke. "What is that other book you have, Bobby?"

"Oh, that's John's Score Book," explained Bobby. "I thought if I could learn to add his scores without making a mistake, I'd be all right."

"John is quite a good player," agreed Miss Burke. "He has some big scores too, I see."

"Gee, I wish I could add them without making a mistake," insisted Bobby. "I want to add mine first, though."

"All right, Bobby, how long do you want to practice adding your scores?" questioned Miss Burke. "I'm sure you'll soon learn how to add without making mistakes."

"I don't know how long I'll spend adding my scores," replied Bobby. "John told me he practiced on his until he could add them three times without making a mistake."

"Oh, yes," interrupted Miss Burke. "I remember now helping John."

"I believe I'll do that too," continued Bobby. "I'll just keep adding my scores until I can add them three times without making a mistake."

"That's a very good plan," explained Miss Burke. "I don't see how?"

"I know, I know," interrupted Bobby. "I'll just keep adding the scores for one game until I can add them three times without making a mistake."

"All right, Bobby," agreed Miss Burke. "Do you plan to add John's in the same way?"

"Sure," explained Bobby. "I want to learn how to add big scores too. I'm going to make some next time."

"You'll need some paper, won't you, Bobby?" queried Miss Burke. Oh, I beg your pardon, I see you have your tablet."

"And my pencil, too," added Bobby. "I'll place my paper right under the scores and add on it like this." (Illustrates.)

"Oh, I see," remarked Miss Burke.

"And when I add the scores for one game right three times, I'll begin on another," continued Billy. "I'll do John's the same way."

"I believe that's a good plan," agreed Miss Burke. "I hadn't thought of that."

III. *Execution:*

Bobby practiced adding the Roly Poly scores recorded in his and John's Game Book until he could add the scores for each game without making a mistake. Miss Burke assisted him in using the best method in adding, such as, for example, carrying numbers, etc.

IV. *Judging:*

"Now, Miss Burke, just watch me add these Roly Poly scores," remarked Bobby near the close of his second day of practice. "I can add now without making mistakes."

"That's fine, Bobby," approved Miss Burke. "Suppose you try these."

"Sure," agreed Bobby. "Watch me add them three times without making a mistake."

"You'll not lose the next game, will you, Bobby?" interrupted Miss Burke. "You're a champion now."

"I'll sure not," enthused Bobby. "I made my mistakes in carrying."

"I see," added Miss Burke.

"I'm going to add my Roly Poly scores from now on three times," continued Bobby. "I know I'll get them right then."

"That's a very good idea, Bobby," approved Miss Burke. "I noticed John always adds his scores twice."

"And he never makes a mistake, either," added Bobby. "I'm going to add mine three times, though."

"All right, Bobby," agreed Miss Burke.

"Gee, I can't hardly wait until the next Roly Poly game," interrupted Bobby. "I want to try my luck adding some new scores."

"Maybe, you'll not play Roly Poly," remarked Miss Burke. "I heard Catherine say she wanted to play Bean Bag."

"Well, I'll add my Bean Bag scores then," continued Bobby. "I'm for Roly Poly though."

V. *Leading on Projects.*

1. How Billie added his Bean Bag scores (game selected on succeeding day).

Illustration II—Indirect Measurement of a Story Project.

1. *Purpose of Measurement.* The supervisor selected the second line of teaching difficulty to measure, namely, difficulties involved in the stimulation and direction of a selected combination of traits of purposeful activity (initiation, evaluation, choice, and organization of means).

2. *Nature of Activity.* The supervisor selected a sixth grade group activity in the dramatization of stories.

3. *Selection of Activity.* The supervisor selected the dramatization of the First Thanksgiving.

4. *Method of Securing the Report.* The supervisor selected the stenographic method for securing the report of the foregoing activity.

5. *Making the Report.* The stenographer visited the classroom and made a stenographic report of the work. This report is shown on page 182.

6. *Preparing the Score Card.* The supervisor filled in the names of the activity, children, and teacher, grade, and date in the places provided for on the Activity Score Card.

7. *Scoring Drives and Responses.* The supervisor scored the drives and responses of each child and the teacher for each of the selected traits as revealed in the foregoing stenographic report. The scores are shown in Figure 12.

8. *Computation of Individual Indexes.* The supervisor computed the Drive Index and the Response Index for each of the selected traits. These Indexes are shown in Figure 13.

9. *Study of Indexes.* The foregoing Activity Index Card reveals, in the first place, that all the children in this instance possessed a drive to pursue each of the selected traits. The Drive Index is 100 in each instance. This indicates that the children were in a state of readiness to initiate, evaluate, and choose the means in dramatizing the story. In the second place, the Response Index indicates that the children made all of the responses in each of the selected traits. The Response Index of the teacher also indicates this fact. It is zero in each selected trait. The Response Indexes of the children, however, vary widely in each of the selected traits. It ranges in the initiation of means from 33 to 366; in the evaluation of means from 50 to 400; and in choice of means from 50 to 200. This variability in the Response Index indi-

THE ACTIVITY SCORE CARD USED IN INDIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF A GROUP ACTIVITY

Activity Dramatization of First Thanksgiving Grade 6th

Teacher Miss Blanton Date 10/12/21

PUPILS		ACTIVITY TRAITS															
	Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Index	Individual Total
Ann	D				////////	///	///									
	R				////////	///	///									
Burlison	D				/	/	/									
	R				/	/	/									
Chester	D				///	////	////									
	R				///	////	////									
Clara	D				/	/	/									
	R				/	/	/									
Dorothy	D				////	/	///									
	R				////	/	///									
Edgar	D				/	/	/									
	R				/	/	/									
Frank	D				////	///	////									
	R				/////	///	////									
George	D				/	/	/									
	R				/	/	/									
Hazel	D				/	/	/									
	R				/	/	/									
James	D				//////	///	////									
	R				//////	///	////									
Jesse	D				/	/	/									
	R				/	/	/									
Josephine	D				/	/	/									
	R				/	/	/									
John	D				//	///	//									
	R				//	///	//									
Lester	D				//////	//	///									
	R				//////	//	////									
Lucetta	D				////	//	///									
	R				////	//	///									
Louisa	D				///	///	///									
	R				///	///	///									
Lewis	D				/	/	/									
	R				/	/	/									
Richard	D				/	/	///									
	R				/	/	///									
Robert	D				//	/	/									
	R				//	/	/									
Sadie	D				//////	///	///									
	R				//////	///	///									
Virginia	D				////	//////	///									
	R				////	//////	///									
Teacher	D															
	R															

FIG. 12, PAGE 180.

THE ACTIVITY INDEX CARD USED IN INDIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF A GROUP ACTIVITY

Activity: Dramatization of First Thanksgiving — Grade: 6th

Teacher: Miss Blanton — Date: 10/16/21

PUPILS	Drive and Response Index	ACTIVITY TRAITS: Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals
Boaz	D				100	100	100							
	R				266	150	150							
Burlison	D				100	100	100							
	R				33	50	50							
Chester	D				100	100	100							
	R				100	200	200							
Clara	D				100	100	100							
	R				33	50	50							
Dorothy	D				100	100	100							
	R				133	50	150							
Edgar	D				100	100	100							
	R				33	50	50							
Frank	D				100	100	100							
	R				166	150	200							
George	D				100	100	100							
	R				33	50	50							
Hazel	D				100	100	100							
	R				33	50	50							
James	D				100	100	100							
	R				200	150	200							
Jesse	D				100	100	100							
	R				33	50	50							
Josephine	D				100	100	100							
	R				33	50	50							
John	D				100	100	100							
	R				66	150	100							
Lester	D				100	100	100							
	R				300	100	200							
Lucille	D				100	100	100							
	R				133	100	150							
Louise	D				100	100	100							
	R				100	150	150							
Lucas	D				100	100	100							
	R				33	50	50							
Richard	D				100	100	100							
	R				33	50	50							
Robert	D				100	100	100							
	R				66	50	50							
Sadie	D				100	100	100							
	R				366	200	150							
Virginia	D				100	100	100							
	R				133	400	150							
Teacher	D				0	0	0							
	R				0	0	0							

FIG. 13, PAGE 181.

cates that some of the children were extremely weak in response in each of the selected traits, while other children were extremely strong.

10. *Inventory of Teaching Difficulties.* The Drive Index in the foregoing instance indicates that the teacher in question was very proficient in stimulating the children's response along their drive in the selected traits. It indicates that the teacher provided suitable stimuli—stories, pictures, costume materials, etc. The Response Index indicates that the teacher was not so proficient in the direction of the children's response along their drive in these traits. It indicates inability to enable Burleson, Clara, Edgar, George, Hazel, Jesse, Josephine, Lewis, Richard, and Robert to respond successfully in these traits. The Response Index of each of these children for each of the selected traits is extremely low. These Indexes reveal the following teaching difficulties:

1. Non-response on the part of Burleson, Clara, Edgar, George, Hazel, Jesse, Josephine, Lewis, Richard, and Robert in the initiation of means in the dramatization of stories.
2. Non-response on the part of Burleson, Clara, Edgar, George, Hazel, Jesse, Josephine, Lewis, Richard, and Robert in the evaluation of means in the dramatization of stories.
3. Non-response on the part of Burleson, Clara, Edgar, George, Hazel, Jesse, Josephine, Lewis, Richard, and Robert in the choice of means in the dramatization of stories.

11. *Order of Teaching Difficulties.* The following indicates the order in which the foreging difficulties occur in teaching:

1. Non-response on the part of Burleson, Clara, Edgar, George, Hazel, Jesse, Josephine, Lewis, Richard, and Robert in the initiation of means in the dramatization of stories.
2. Non-response on the part of Burleson, Clara, Edgar, George, Hazel, Jesse, Josephine, Lewis, Richard, and Robert in the evaluation of means in the dramatization of stories.

3. Non-response on the part of Burleson, Clara, Edgar, George, Hazel, Jesse, Josephine, Lewis, Richard, and Robert in the choice of means in the dramatization of stories.

STENOGRAPHIC REPORT OF A DRAMATIZATION OF THE FIRST THANKSGIVING

I. *Purposing:*

"I think Lester told his story so well," remarked Virginia (when Lester had finished telling the story of "The First Thanksgiving").

"I think so too," added James. "And if he had had on his new Indian suit I would have thought it was Massasoit himself."

"My Indian suit was just as nice as Lester's when it was new, but I tore a big hole in the knee the other day," remarked Robert.

"Oh! That is just like you, Robert Smith, you are always doing some careless thing," exclaimed Luetta.

"You just say that because Edgar and I almost frightened you and Virginia to death the other day when we were dressed up playing Indian," retorted Robert.

"Girls are such 'fraid cats," added Sam.

"Well, I don't think the Pilgrim women were afraid of the Indians and we are not either," replied Ann.

"I'll bet I could scare you, Ann, if I put on my Indian suit and hid behind a tree, and jumped out at you as you passed by," laughed Lester.

"Oh! Of course anyone would jump, but I am not afraid of Indians any more than you are, Lester Clark, so there!" retorted Ann.

"Say, kids, I've an idea," exclaimed Sadie. "Why couldn't we play 'The First Thanksgiving'?"

"That's just like you, Sadie, you always think of something different from everybody else," said Virginia.

"That story would be all right for boys, but what parts could the girls have?" complained Louisa.

"I had not thought of doing this before," said Sadie. "But it seems to me that we could act out the characters it tells about in the story, Priscilla, Mrs. Brewster, Mrs. Hopkins, Mrs. Allerton and Pilgrim women."

"I don't see why we can't act out this story just fine," remarked James, "because we have more boys than girls in our class and some of the boys could be Indians and some could be Pilgrims carrying guns."

"Why, of course," shouted Lester. "I want to be an Indian."

"Not I," exclaimed Frank. "I'd like to be a Pilgrim and carry Daddy's big gun to scare the Indians."

"Oh! I just love to be in plays, I wish we could play this one," added Virginia.

"How many want to play 'The First Thanksgiving'? Oh, every one except Burleson," said Sadie.

"I like parties with lots of ice cream and cookies better than plays," grumbled Burleson.

"Maybe we can have something to eat in our play anyway; let's study the story and be thinking about who'd be best for the parts, so we can begin planning right away," suggested Sadie.

"Fine," they all agreed. "Tomorrow we will make our plans."

II. *Planning:*

"Oh, goody! Here comes Lester at last," exclaimed Sadie.

"Hello, Massasoit, you're it," they all exclaimed.

"Yes, we have already decided that you are to be Massasoit because you said you wanted to be and you have that swell Indian suit; besides, we are sure you will play that part just fine," added Sadie.

"Well, I'll try and not spoil the play, I'll do the best I can but I want Robert to wear his Indian suit too," coaxed Lester.

"Sure, I'll wear my suit," replied Robert. "Mother patched it tonight."

"I'd wear mine too if I did not have to say anything," said Edgar.

"Well, Indians don't talk much and I know you can grunt like this, 'Ugh, Ugh,'" explained Lester.

"Gee! Wish I had a suit," complained Lewis.

"So do I," piped up Donald.

'Well, let's see, how many Indians can we have?" inquired Sadie.

"I have already counted the boys," answered James. "There are nineteen and we have already decided that Lester will be Massasoit, Robert and Edgar have Indian suits, so they could be Samoset and Squanto. Lewis, Donald, and some of the other boys can stick feathers in their caps like Indian braves. How many want to be Indians?"

"I do," shouted Jesse, Harry, Sam, Philip, and Paul.

"Let me see, that will be ten Indians and leave nine boys to be Pilgrims," remarked James thoughtfully.

"I think James ought to be Governor Bradford, he is such a good manager," interrupted Luetta.

"Just the thing," agreed Donald.

"I want to be Captain Miles Standish," said Frank. "I don't have an Indian suit but I have a dandy soldier suit and I think daddy will let me carry his big gun."

"My, this is going to be some play," exclaimed Lester.

"Yes, but what are the girls going to act out?" asked Virginia.

"I think Sadie should be Priscilla," said Lester. "She thought of this play; besides I think she is pretty." (All laugh.)

"Lester ought to be John Alden if he thinks she is so pretty," laughed Robert.

"My name is John, why can't I be John Alden?" inquired John.

"Sure," exclaimed Lester.

"Say, don't you wish you had taken my part, Captain Miles Standish?" teased John.

"Just wait until you see me with that big gun; you will think I am some captain all right," responded Frank.

"If I knew how to dress like Priscilla did, I would be happy," Sadie remarked.

"Oh, that makes me think of some pictures I brought," exclaimed Louisa. "I brought three pictures showing the first home of the Pilgrims, Governor Bradford and the Pilgrims going to church and another of Priscilla and John Alden."

"I think the girls could wear black dresses with white aprons and caps," suggested Luetta. "My mother will help make the costumes I know."

"I'm sure my mother will help me too," added Virginia.

"We boys won't need to do much to get our costumes ready," bragged George. "Our knee trousers will be right in style, all we will need will be big white collars, buckles for our slippers and stiff hats."

"Let's go home," said Wayne, "and see if our mothers will make these things for us."

"A fine suggestion," said Miss Blanton, "I was just thinking of that myself."

"I wish I knew before I go home whether I can be Mrs. Hopkins or not and bring my big doll and cradle for Oceana," remarked Virginia.

"You spoke first for that part, so it looks like you ought to have it if your mother will let you bring your nice doll," suggested Sadie.

The next day Virginia came to the schoolroom carrying her doll and exclaimed, "Mamma says I can leave my doll with Miss Blanton to take care of it; then we may use it every time we practice."

"Oh, I wish I could bring my doll too," said Clara.

"I have been just wondering why some of the girls couldn't be Indians and tie their dolls on their backs like papooses; I know I would like to," added Emily, enthusiastically.

"So would I," remarked Dorothy and Clara.

"Why of course, let the girls have their dolls if they want to, we boys have our guns," suggested Frank goodnaturedly.

"Well, how do you know we are going to have a play?" asked Ann. "We can't have a play without costumes and my mother says she doesn't have any time to fool with such things."

"Don't you think for a minute that we are going to give up this play," exclaimed Sadie, "for that part of it is all fixed; my Aunt Julia said when I told her about our costumes that she would be glad to have something like that to do to keep her from getting lonesome. She will make all the collars, caps, and buckles, if you want her to."

"Let her make them," John shouted.

"But who will make the boys' hats? I want to look big and grand," queried Frank.

"You remember my mother wanted to help make the costumes," replied Luetta. "So I know she will help make the hats if she had one to look at."

"I noticed one in the storeroom the other day," suggested Dorothy. "I think it can be used as a pattern."

"Well, that settles that," said Louisa. "For my mother said she wanted to help too, so I will tell her about the hats to be made."

"I told my mother what I said yesterday, about liking parties better than plays because they always have something good to eat at parties," said Burleson. "Then mother said, "Why, Burleson, I am ashamed of you, Miss Blanton will think you don't have enough to eat at home.'"

"Well, maybe you are like me, just always hungry," suggested Edgar.

"I think mother knows how a boy feels," answered Burleson, "for she said that Thanksgiving does make one think of good things to eat and she doesn't see why we couldn't have a real Thanksgiving dinner as a part of our play. She told me to ask you if you would like for her to phone the other mothers about furnishing something for the spread."

"Hurrah! Hurrah! A feast," exclaimed John.

"It seems to me that we are forgetting one of the main characters," said thoughtful Ann.

"Oh, I know, it's Elder Brewster," said Chester. "I have been afraid all the time you would want me to take that part, but I want to be Councillor Allerton, I wouldn't like to be a preacher."

"Oh, well, Richard is the one for that part; he is always so serious," suggested Sadie.

"Well, I think you are serious too, smarty," retorted Richard.

"Oh! There, now, Richard, don't feel badly, Sadie didn't mean to hurt your feelings. You must not spoil our play, you are just the one to be Elder Brewster," coaxed Ann; "besides, I'll be Mrs. Brewster if you will be Elder Brewster."

"All right, that's a go," replied Richard

"Now since we have decided upon the characters and costumes, I think the next thing to do is to plan the scenes and what the characters are to say," suggested Sadie.

"A fine idea," remarked Miss Blanton. "I would like to suggest that Josephine go to the blackboard and write what each character is to say."

"Let's get our pencils and paper, and copy what she writes, so we can learn our parts at home, for that is the part that worries me," remarked Edgar.

Josephine went to the blackboard and Lester was quick to say, "I think the first scene should be Massasoit's Camp and his Indians. I know where I can get a tent and I think it would be fun to make this scene out doors under the trees; but if it is a bad day we could have our play in the house and bring enough branches in to make it look like a forest."

"Yes, but I dread to say my part," interrupted Edgar.

"Since you dread your part so much, Edgar, you could be first in the play," suggested Lester. "You can pretend like you see something among the trees, make motions and call out, 'Ugh, Ugh.' Then I'll ask if they see white men. Robert could say 'Ugh, Ugh,' too, while we all hide as the Pilgrims come marching in, carrying guns on their shoulders."

"When the Pilgrims stop, Governor Bradford could address them just as the story suggests," added James. "But who will answer the question, when I say 'What shall we call this place?' "

"I could answer that I thought we had learned that Captain John Smith had named the place Plymouth after the old Plymouth in England," explained John.

"We'll all exclaim, 'yes, yes, it must be Plymouth,'" continued James. "I'll tell the men to get to work building log cabins. Just then the Indians could slip out from behind the trees and I'll call out, 'who comes there?'"

"We'll all scream, 'Indians,'" suggested Dorothy.

"Right then I'll take a hand," chuckled Frank. "I'll step to the front, point my gun at the Indians and say, 'What do you want?'"

"Massasoit could then walk up to you and say, 'Me welcome you strangers,'" remarked Lester.

"My, that does sound babyish," laughed Lewis.

"No, it doesn't either," retorted Virginia. "That is just the way Indians talk."

"We'll stop fussing," warned Frank. "I want to tell you what I'm going to do. I'll drop my gun to my side and exclaim, 'Oh, they are friends.' Then I'll walk up to Massasoit shake hands with him and say, 'Welcome, red men, we are Pilgrims come to live with you away from a cruel king'; after this I'll introduce James as Governor Bradford."

"Massasoit will introduce himself," explained Lester, "by saying, 'me Massasoit, Indian Chief,' and pointing to others say, 'him Squanto, him Samito and Indian braves.'"

"We must not forget about the Indians teaching the white men to raise corn," declared Sadie.

"I was thinking of that," replied Lester. "How would it do for me to say, 'You plant corn, me show how,' then I'll swing my arm like I am sowing grain; next I'll raise my hand up high and say, "Corn big, eat.'"

"Gee! He's some actor!" said Lewis proudly.

"I'll tell you something else that would be fun," continued Lester. "I would like to walk up to Virginia's doll (the girls could act like they were frightened) pat it on the head and say, 'White papoose, me no kill.'"

"Oh, that's great," exclaimed Virginia. "We'll say, 'Good Massasoit! Good Massasoit!' And that's a good ending for the first scene, I think."

"So it is," agreed Miss Blanton. "I am very much pleased with the first scene, I think you are going to have a wonderful little play."

"I wish we could have the second scene in Mrs. Hopkins' home," suggested Sadie. "We learned that this first Thanksgiving was a year after the Pilgrims landed; by that time they had their homes built and some furniture. So Mrs. Hopkins could be seated rocking Oceana in her cradle."

"Oh, Sadie, that will be splendid," bragged Virginia. "Louisa, Luetta and you can come and knock; I will go to the door and say, 'How do you do, my Dear Friends and Neighbors, come in and have seats.'"

"My! This is just like playing 'come to see,'" declared Luetta.

"I'll ask how little Oceana is today," remarked Sadie.

"I'll bet you'll laugh, Sadie," teased Robert.

"I'll bet she doesn't," retorted Virginia. "You think girls can't do anything. I'll tell Sadie that Oceana is strong and well and I will add that I am thankful to say so because this play is all about Thanksgiving, you know."

"Yes, that is right," added Louisa. "I thought I would say, 'Oh, we have so much to be thankful for, we have been saved from starvation and kept safe from great dangers.' Then I'll turn to Virginia and ask her if she has heard that we are going to spend the next day giving thanks. Of course Virginia will say she hasn't heard a thing about it."

"No, I won't either," retorted Virginia. "You know the Pilgrims always went to church, so I'd rather say, 'Yes, I heard about it at church last Sunday, but I've been home so closely with Oceana I have not heard their latest plans.'"

"I will explain to her," suggested Sadie, "that I heard John Alden and Miles Standish say we were to meet in the meadow Thursday at noon and have dinner together, sing songs and offer prayers of Thanksgiving."

"Captain Standish, Governor Bradford and Councillor Allerton have already gone to invite our friend Massasoit and his tribe to dinner," added Luetta.

"That suits me, talk up the dinner," called out Burleson.

"Every one has something to say except me; I don't see where I come in, in this play," pouted Ann.

"Now, Mrs. Brewster, don't get peeved," teased Robert.

"Oh, I know, wouldn't it be fun to have Elder and Mrs. Brewster call on Mrs. Hopkins while we're there," suggested Luetta.

"Just the thing," shouted James.

"I'll say, 'Here come Elder and Mrs. Brewster,'" added Virginia. "Then I'll go to the door and they will come in, acting very dignified."

"After we say, 'How do you do?' what will we talk about?" inquired Luetta.

"Of course we'll talk about the Thanksgiving dinner," answered Ann. "And then I'll ask Virginia if she can help cook and serve the dinner."

"Virginia can't help," laughed Lester. "She'll have to take care of Oceana."

"No, sir, I'm going to that dinner," declared Virginia. "Lots of ladies go places and take their babies with them; that's what I'll do."

"I think Elder Brewster ought to make a talk about Thanksgiving before he leaves Mrs. Hopkins," suggested Louisa. "Then I'll jump up and say, 'I must go.'"

"Yes, we'll all leave when my husband gets through talking," laughed Ann. "And I'll call out from the front door step, 'Come early, Mrs. Hopkins, for all the women of the village will prepare the dinner out in the meadow.'"

"I'll answer her by saying, 'Yes, I'll be there,'" said Virginia.

"This would be a good place for the curtain to fall," remarked Ann.

"Just the place," agreed Lester.

"Now comes the best part of the play," exclaimed Burleson. "My mother phoned all the mothers and they seemed glad to furnish something for the dinner, so we won't have to just pretend like we are eating."

"We must pretend, though," suggested Sadie, "that we cook the dinner. The girls could be busy setting the table while the boys chop the wood."

"I chop nearly all the wood at home," bragged Robert. "I'll bring my ax and show you how it is done."

"My plan is to rush in with a bag on my shoulder, throw it down at Priscilla's feet and say, 'Here are the turkeys for dinner, Priscilla. They are the largest I could find in the woods. Cook them well, they will make a feast,'" remarked Frank.

"Say, boy, but this is getting interesting," piped up Edgar.

"I thought I was going to be in this play and have my dolly like Virginia," interrupted Dorothy.

"Don't you remember, Dorothy, you and Clara and I are going to strap our dolls on our backs like papooses," explained Emily.

"I'm getting anxious to see all my tribe together," remarked Lester.

"I'll count them for you," suggested Robert, "there's Edgar, Jesse, Lewis, Harry, Donald, Philip, Sam, and myself and the three girls, Emily, Clara and Dorothy."

"Gee! We'll make quite a show when we go marching in to dinner," said Lester proudly.

"I've seen several pictures of Indians and white men sitting in a circle smoking a peace pipe. I wish we could have something like that in our play," suggested Sadie.

"That would be easy if we just had a pipe," remarked Sam.

"Let me bring the pipe," said Philip. "We have one that Uncle Joe sent from China. It will be just the thing."

"When Massasoit and his tribe come to dinner," remarked James, "I'll walk up to Massasoit, make a big bow, welcome each one and make a grand speech of some sort; then I'll say: 'John Alden, bring the peace pipe'; then we'll all sit down in a circle and smoke in turn but not say anything."

"Who is going to tell them when dinner is ready?" inquired Sadie.

"You are the one to do that, Sadie," answered Lester. "Be sure you make a bow when you do and look your prettiest."

"Oh, that will be easy for Sadie," said Chester shyly.

"Since I am Governor Bradford," remarked James, "I'll get up, motion with my hand and say, 'Come, Massasoit, Come Braves, Come all.'"

"Whoopee-ee! Now we'll eat," shouted Richard.

"That's just like boys, they don't have any manners," declared Louisa. "I think Governor Bradford should sit at the head of the table, then the Pilgrim men and women and next the Indian tribe."

"Yes, and I think Governor Bradford ought to ask Elder Brewster to ask the blessing," suggested Jesse.

"How about it, Richard, will you do it?" asked Ann coaxingly.

"Well, I could say the one we learned at Sunday School if it would be all right," answered Richard.

"I think everyone should bow their heads while the blessing is being asked," remarked Louisa. "After that we can laugh and talk about anything we want to."

"I wish we could sing one of our songs," suggested Sadie.

"Let's have Elder Brewster stand and make a sign for all the others to stand; then we'll sing a psalm and be seated again," said James.

"All right," laughed Richard. "I guess I'll have to do what the Governor says."

"Gee! I'm glad you are going to be seated again. I was afraid you would forget the pumpkin pies," remarked Chester.

"Oh! I'll get the pie," suggested Sadie.

"Well, I'll have to help you, for you can't carry them all," laughed John.

"Three cheers for John," they shouted.

III. *Executing:*

Scene I. Camp of Massasoit and his Indians.
Scene II. The Home of Mrs. Hopkins (a year later).
Scene III. The Meadow before the Village of Plymouth.

CHARACTERS

Squanto	Edgar	*Pilgrim Men*	Burleson
Massasoit	Lester		George
Samoset	Robert		Wayne
Governor Bradford	James		Carl
Captain Standish	Frank		
Councillor Allerton	John		
Madame Hopkins	Chester	*Indian Braves*	Jesse
John Alden	Virginia		Lewis
Mrs. Brewster	Sadie		Harry
Priscilla	Luetta		Donald
Mrs. Allerton	Louisa		Philip
Mrs. Winslow	Richard		Sam
Elder Brewster	Ann		Paul
	Josephine		
	Hazel		Clara
Pilgrim Women	Ruth	*Indian Women*	Dorothy
	Mary		Emily
	Fanny		

SCENE I

Camp of Massasoit and his Indians in the forest. Massasoit welcomes the Pilgrims.

Squanto (Sees something among the trees, beckons and calls): Ugh! Ugh!

Massasoit: White men?

Samoset: Ugh! Ugh!

Massasoit: Sh! (They hide. Pilgrims walk in slowly, the men with guns looking cautiously about. They halt.)

Gov. Bradford: My friends, after three months of sailing on our good ship the Mayflower, we have at last reached the new land of America. Here we can worship God in our own way with no king to say how we shall do it. But we must have a name for this place. What shall we call it?

John Alden: Governor Bradford, this must be the place that

Captain John Smith told us he had named Plymouth after the old Plymouth in England.

Gov. Bradford: John Alden says this place is Plymouth.

All: Yes, yes, it must be Plymouth.

Gov. Bradford: Then Plymouth it shall be. But we can't stand here talking. We have work to do. First we must build two log cabins, one for the women and one for the men. (The Indians come out from behind the trees.) Who are these?

All: Indians! (Captain Miles Standish steps in front with gun pointed. The other men make circle with the women in the center.)

Captain Standish: What do you want?

Massasoit: Me welcome you strangers.

Captain Standish (Dropping gun to side): Oh! They are friends! (Goes to meet them.) Welcome, red men. We are Pilgrims come to live in your land away from a cruel king. This is our Governor Bradford. I am Captain Miles Standish.

Massasoit: Me Massasoit, Indian Chief. (Points.) Him Squanto, him Samoset, Indian Braves.

Braves: Ugh! Ugh!

Massasoit: You plant corn? Me show how. (Swings arm as in sowing grain.) Corn big. (Raises hand to level of growth.) Eat.

Captain Standish: He says he will show us how to plant corn to eat.

Pilgrims: Hurrah! Hurrah!

Massasoit (Walks over to baby Oceana, the women fall back afraid. Massasoit pats baby on head): White papoose! Me no kill.

Pilgrims: Good Massasoit! Good Massasoit!

Curtain.

Scene II

A year later. A room in the home of Madame Hopkins. Madame Hopkins seated in a low chair rocking the cradle of little Oceana. There is a knock at the door.

Madame Hopkins (Rising): Come in. (Enter Priscilla, Mrs. Allerton and Mrs. Winslow.)

Madame Hopkins: How do you do? Dear friends and neighbors, come in and have seats.

Priscilla: Thank you, Madame Hopkins. How is little Oceana today?

Madame Hopkins: She is strong and well, I am thankful to say.

Mrs. Winslow: Oh, we have so much to be thankful for. We have been saved from starvation and kept safe from great dangers. Have you heard that we are going to spend the day tomorrow in Thanksgiving?

Madame Hopkins: Yes, I heard the announcement made at church last Sunday, but I have scarcely been outside since then. Can you tell me the final plans for this Thanksgiving?

Priscilla: I heard John Alden and Miles Standish say that we are all to meet in the meadow Thursday at noon and have dinner together, sing songs and offer prayers of Thanksgiving. Captain Standish, Governor Bradford and Councillor Allerton have gone to invite our friend Massasoit and his tribe to dinner.

Madame Hopkins: Here come Elder and Mrs. Brewster now. (Madame Hopkins hastens to open the door. Enter Elder and Mrs. Brewster.)

Both: Good day to you all.

All within: Good day to you.

Madame Hopkins: We were talking about Thanksgiving.

Mrs. Brewster: And may we count on you, Madame Hopkins, to help us cook and serve the dinner tomorrow?

Madame Hopkins: Indeed, you may.

Elder Brewster: That is indeed the right spirit. All the colonists seem to have the right spirit and it is my wish that this observation of a day of giving thanks to God may be passed on to our children and to their children so that we may ever be a nation that does not forget the Heavenly Father.

Mrs. Winslow: Well, I must go.

Others: So must we.

Madame Hopkins: Good day, my dear friends.

All: Farewell, until tomorow.

Mrs. Brewster (From the door step); Come early to the meadow, Mrs. Hopkins, for all the women of the village will prepare the dinner there.

Madame Hopkins: I'll be there.

Curtain.

SCENE III

The meadow before the village of Plymouth. The women of the village hurrying about bringing food and preparing the table. The men are chopping wood. Captain Standish comes from the woods with a big gun over his shoulder.

Captain Standish: Priscilla! Here are the turkeys for dinner. They are the largest I could find in the woods. Cook them well. They will make a fine feast. (Priscilla courtesies and takes the turkeys. The Indians come filing in, the Pilgrim men meet them.)

Gov. Bradford: Welcome, Massasoit! (He bows with great ceremony as he welcomes each one.) Welcome, Squanto! Welcome, Samoset! Welcome, Braves! We have asked you to come to our feast of Thanksgiving today. God has given us fine fields of corn and good fruit. He has kept us safe and we wish to thank Him for all He has done for us.

(John Alden brings the peace pipe. All sit in a circle on the ground and smoke in turn the peace pipe, a few minutes in silence.)

Priscilla (Courtesying): Governor Bradford, dinner is ready.

Gov. Bradford: Elder Brewster, will you ask the blessing?

Elder Brewster (Making a sign for all to bow their heads): Our Father, we thank Thee for this food, for our health, for freedom to worship Thee in our own way. For all of our great blessings we truly thank Thee. Amen. (The dinner proceeds merrily amid laughter and talk, until at a sign from Elder Brewster all stand and sing a psalm. They are reseated.)

Priscilla (Rising): I will bring the pie.

John Alden: I will help you. (Exit Priscilla and John. Others laugh and talk.)

IV. *Judging:*

"Oh, Miss Blanton! I have something the best to tell you. Mamma said our play was the best she ever saw put on in the school."

"That's perfectly splendid," agreed Miss Blanton.

"Well, I saw something that I didn't think was very nice," remarked Louisa.

"Oh, you mean the funny faces that Robert made while he was partly hid from the Pilgrims, don't you?" inquired Ann.

"No, I didn't see that," said Louisa, "but I saw some one (I wont say who) that laughed while Elder Brewster was asking the blessing."

"I'm sure it wasn't I," announced Lester, "for I got sent away from the table once when the minister was at our house; he asked such a long blessing my grandfather nodded and of course I laughed."

"Well, I know every one liked our play," said Virginia, "and my mother said, 'I like that sort of a play because it helps you so much to find out about the Pilgrims.'"

"I wish we could play Columbus next, for we know so much about him already," suggested Luetta.

"Hurrah! That suits me," interrupted Lester. "There would be more Indians in that play and I just love to be an Indian."

"You make a splendid Indian, Lester, but what parts could the girls take in the play Columbus?" asked Sadie.

"Oh, we could think it out," replied Lester. "You'd make a dandy Queen Isabella, Sadie."

"Thanks, awfully," responded Sadie.

"Who is Queen Isabella?" inquired John.

"Why, John, don't you know that she was the Queen of Spain?" answered James with importance.

"I could take the part of King Ferdinand, if you want me to," suggested James.

"Huh!" exclaimed Robert. "He thinks he's some actor."

"Well, Miss Blanton, my mamma told me that we had some splendid talent in our room," explained Ann. "And I think she must have meant Sadie and James."

"At any rate I mean to be a great actor when I grow up," bragged James.

"So do I," echoed a dozen voices.

V. *Leading on Projects:*

1. How to play Columbus.

Illustration III—Indirect Measurement of a Lesson in Community Civics.

1. *Purpose of Measurement.* The supervisor selected the third line of teaching difficulty to measure, namely, difficulties involved in stimulating and directing all the traits of purposeful activity.

2. *Nature of Activity.* The supervisor selected a ninth grade group activity in the study of Community Civics.

3. *Selection of Activity.* The supervisor selected the study of Local Government in Community Civics.

4. *Method of Securing the Report.* The supervisor

selected the stenographic method for securing a report of the foregoing activity.

5. *Making the Report.* The stenographer visited the classroom and made a stenographic report of the work. The report is shown below.

6. *Preparing the Score Card.* The supervisor filled in the names of the activity, children, and teacher, and the grade and date in the places provided for on the Activity Score Card.

7. *Scoring Drives and Responses.* The supervisor scored the drives and the responses of the children and teacher for all the traits of purposeful activity as recorded in the stenographic report. The scores are shown in Figure 14.

8. *Computation of Individual Indexes.* The supervisor computed the Drive Index and the Response Index for each child and the teacher for all the traits of purposeful activity. These Indexes are shown in Figure 15.

STENOGRAPHIC REPORT OF A CONVENTIONAL LESSON IN COMMUNITY CIVICS

9th Grade

Topic: The Community and the Citizen: Local Government

Mr. Smith (Teacher): We are studying today the chapter in our textbook on the Community and the Citizen. I guess you have found out by now that is about our local government. I know you have if you have studied your lesson that I assigned you yesterday. It seems to me that our lesson today is very important, for all of us ought to know about our local government. We are going to discuss today our local government. I assigned this topic at our last recitation. I couldn't have asked you to study a more important topic. John, where did our government in America begin?

John: I don't know, I didn't get to study the lesson.

Teacher: Mary, will you tell us?

Mary: Our text says it began in the colonies.

THE ACTIVITY SCORE CARD USED IN INDIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE [illegible] OF ACTIVITY

Activity: Study of Local Government — Grade: 7th

Teacher: Mr. Smith — Date: 10/20/25

ACTIVITY TRAITS

PUPILS		Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Extroverted Goal	Introverted Goals
Earle	B																
	G																
Edward	B																
	G																
Ernest	B																
	G																
Emmaus	B																
	G																
Fred	B									1							
	G																
Franklin	B																
	G																
Grace	B									1							
	G																
John	B									1							
	G																
Julia	B									1							
	G																
James	B									1							
	G																
Laurence	B									1							
	G																
Lisbon	B																
	G																
Mary	B									1							
	G																
Otto	B																
	G																
Peyton	B																
	G																
Teacher	B	1	11	1	1	111	111	111	111	1111	1	1	1	1			
	G	1	11	1	1	111	111	111	111	1111	1	1	1	1			
	B																
	G																
	B																
	G																
	B																
	G																
Group Total	B																
	G																
Group Index	B																
	G																

FIG 14, PAGE 106.

THE ACTIVITY INDEX CARD USED IN INDIRECT MEASUREMENT OF TEACHING DIFFICULTIES INVOLVED IN THE TEACHER'S GUIDANCE OF A GROUP ACTIVITY

Activity: Study of Local Government — Grade: 9th

Teacher: Mr. Smith — Date: 10/20/25

ACTIVITY TRAITS

PUPILS	[Drive and Response Index]	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals
Carol	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
David	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
Enid	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
Emma	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
Fred	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	50	0	0	0	0	0
Franklin	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
Grace	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	50	0	0	0	0	0
John	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	50	0	0	0	0	0
Julia	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	50	0	0	0	0	0
James	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	50	0	0	0	0	0
Lawrence	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	50	0	0	0	0	0
Lydia	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
Mary	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	50	0	0	0	0	0
Otto	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
Payton	D	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	0	0	0	0	0	0	0	0	0	0	0	0	0
Teachers	D	100	100	100	100	100	100	100	100	100	100	100	100	0
	R	100	100	100	100	100	100	100	300	100	100	100	100	0
	D													
	R													
	D													
	R													
	D													
	R													
	D													
	R													
	D													
	R													

FIG. 15, PAGE 197.

Teacher: That's good, Mary. You read your lesson, didn't you? Now, Julia, you tell us about the forms of local government.

Julia: Republic, Monarchy, and state government,

Teacher: Julia, did you read your lesson? I'm sure you're guessing. James can you tell us?

James: I don't understand the question, Mr. Smith. It's something about town government.

Teacher: Well, James, I thought you would know. You named one. Will you name the others, Fred?

Fred: Town government, county government—oh, that's all I can remember.

Teacher: That's better, Fred. They are listed on page 109 in our lesson. Can you name them, Grace?

Grace: Township government, town government, and county government.

Teacher: That's good, Grace. Now we want to discuss each one of these forms of local government. We are going to discuss town government first, because it comes first in our text. Can you tell us the history of the town government, Franklin?

Franklin: I don't know anything about the history, but I heard Dad say that the Mayor was at the head of our town government, last night. I think we ought to elect a better Mayor.

Teacher: Let's stay on our lesson, Franklin. The text doesn't say anything about our Mayor. Will you tell us something about the history of the town government, Lawrence?

Lawrence: The lesson said something about New England, but I don't understand it. I think Franklin is right. We ought to have a new Mayor. My dad thinks so too.

Teacher: Now, class, let's stay with the lesson, let's talk about the question and not about our Mayor. We are studying the history of town government and not about our Mayor.

John: I read our lesson but I don't like it at all. Mr. Smith, I know why Lawrence's dad doesn't like our Mayor.

Lydia: Mr. Smith, what's the question, is it about where our town government began?

Teacher: I asked about the history of our town government. I see it is now time to dismiss the class for today. I want you all to read the assignment again and be prepared for, and to tell me tomorrow, about the history of our town government. Let's don't discuss the Mayor any more. Remember that. Class excused.

9. *Study of Indexes.* The foregoing Activity Index Card reveals, in the first place, that all the boys and girls in this instance lack drive, in pursuing this study. The Drive Index is zero in every instance. This indicates that the drive to pursue this study came from without. In the second place, the Response Index of this card indicates that all the boys and girls in this instance are extremely weak in response in all the traits of purposeful activity. The Response Index is zero for all the children in all the traits except seven children who have a Response Index of 50 in one trait—Execution of Means. This indicates that the boys and girls did very little of the actual work in this instance. The Response Index of the teacher indicates another fact of importance. It indicates the teacher in this instance performed a major part of the work. His Response Index for each of the several activity traits indicates that he initiated the goal in question, initiated all the means (questions), performed a large part of the execution (answered the questions), and suggested all the improvements (found and corrected all the mistakes).

10. *Inventory of Teaching Difficulties.* The teaching difficulties revealed by the analysis of the foregoing lesson are along two lines. They involve weaknesses in both the teacher's stimulation and direction of purposeful activity. In the first place, they involve non-drive on the part of all children engaging in this enterprise. The Drive Index of each child indicates this fact. The stenographic report indicates clearly that the drive in this instance came from the teacher. In the second place, there are many difficulties connected with non-response on the part of the boys and girls in this instance. Eight of the boys and girls have a Response Index of zero in all the activity traits, while the remaining seven have a Re-

sponse Index of zero in all the traits except execution of means (and only 50 in this one). A comparison of the teacher's Response Index with those of the children indicates that the teacher did a major part of what responses were made in this instance. He set up the goal, initiated all the means, executed a large part of the means, and suggested the improvements!

The first outstanding teaching difficulty revealed by this analysis is apparent inability of the teacher to stimulate purposeful activity on the part of boys and girls in this type of activity. The Zero Drive Index for each child indicates this fact without question. These Indexes reveal inability of the teacher to provide suitable stimuli, for drive depends upon stimuli capable of arousing voluntary response on the part of children in every instance. As a matter of fact, the only stimuli provided in this instance consisted of a textbook in community civics and the teacher himself! Inability to provide varied stimuli —current, social, political, economic and industrial problems of the community and a variety of books and other material dealing with current county problems—is the first outstanding teaching difficulty in stimulating of children's response along their drive in this type of study.

A second teaching difficulty apparent is inability of the teacher to direct purposeful activity in this type of study. He shows extreme weakness in enabling boys and girls to respond in setting up a goal to pursue, in formulating a solution and in carrying forward the solution to a successful conclusion. Instead of enabling children to respond successfully along these lines, the stenographer's report indicates clearly that this teacher actually set up barriers that prohibited response on the part of the children. Enabling boys and girls to initiate, evaluate, and choose a goal; initiate, evaluate, choose,

and organize means; execute means; initiate, evaluate, choose and consummate improvement and suggest other goals, is the second outstanding teaching difficulty in this instance.

In brief, the teaching difficulties revealed by analysis of the foregoing type of activity are:

I. *Difficulties in Stimulation:*

1. Non-drive on the part of all the children in initiation of goal (community problems).
2. Non-drive on the part of all the children in evaluation of suggested goals (desirabiilty of suggested community problems).
3. Non-drive on the part of all the children in choice of a goal (community problem to study).
4. Non-drive on the part of the children in initiation of means (things suggested to study about chosen community problem).
5. Non-drive on the part of all the children in evaluation of suggested means (desirability of suggested things).
6. Non-drive on the part of all the children in choice of means (things considered necessary to study chosen community problem).
7. Non-drive on the part of all the children in organization of means (order of working out things in study of chosen community problem).
8. Non-drive on the part of all the children in execution of means (working out means in the study of chosen community problem).
9. Non-drive on the part of all the children in initiation of improvement (mistakes made in study of chosen community problem).
10. Non-drive on the part of all the children in evaluation of improvement (desirability of suggested improvements).
11. Non-drive on the part of all the children in choice of improvement (mistakes to correct in study of chosen community problems).
12. Non-drive on the part of all the children in consummation of improvement (correcting mistakes in study of chosen community problem).
13. Non-drive on the part of all the children in leading to further goals (suggesting related things to do).

II. *Difficulties in Direction:*

1. Non-response on the part of all the children in initiation of goal (finding community problems to study).
2. Non-response on the part of all the children in evaluation of goal (seeing both the good and bad points of each suggested goal).
3. Non-response on the part of all the children in choice of goal (choosing a community problem to study).
4. Non-response on the part of all the children in initiation of means (finding the things necessary in study of chosen community problems).
5. Non-response on the part of all the children in evaluation of means (seeing both the good and bad points of each suggested means).
6. Non-response on the part of all the children in choice of means (choosing desirable means to use in study of chosen community problem).
7. Non-response on the part of all the children in organization of means (arranging the means in the order of their use in study of chosen community problem).
8. Non-response on the part of all the children in execution of means (performing the means in study of chosen community problem).
9. Non-response on the part of all the children in initiation of improvements (finding mistakes made in study of chosen community problem).
10. Non-response on the part of all the children in evaluation of improvement (seeing both good and bad points of each suggested improvement).
11. Non-response on the part of all the children in choice of improvement (choosing mistakes to correct in study of chosen community problem).
12. Non-response on the part of all the children in consummation of improvement (correcting chosen mistakes).
13. Non-response on the part of all the children in leading to further goals (suggesting related goals to pursue).

11. *Order of Teaching Difficulties.* The following indicates the order in which the teaching difficulties revealed by the foregoing analysis occur in teaching:

1. Non-drive and non-response in the initiation of goal in community problems on the part of all the children.

2. Non-drive and non-response in the evaluation of goals in community problems on the part of all the children.
3. Non-drive and non-response in the choice of goal in community problems on the part of all the children.
4. Non-drive and non-response in the initiation of means in community problems on the part of all the children.
5. Non-drive and non-response in the evaluation of means in community problems on the part of all the children.
6. Non-drive and non-response in the choice of means in community problems on the part of all the children.
7. Non-drive and non-response in the organization of means in community problems on the part of all the children.
8. Non-drive and non-response in the execution of means in community problems on the part of all the children.
9. Non-drive and non-response in the initiation of improvement in community problems on the part of all the children.
10. Non-drive and non-response in the evaluation of improvement on the part of all the children.
11. Non-drive and non-response in the choice of improvement in community problems on the part of all the children.
12. Non-drive and non-response in the consummation of improvement in community problems on the part of all the children.
13. Non-drive and non-response in originating associate goals in community problems on the part of all the children.

FURTHER DISCUSSION

1. Colling, Ellsworth, *An Experiment with a Project Curriculum*, pp. 260–283.
2. Meriam, J. L., *Child Life and Curriculum*, Ch. 19.
3. *Teachers College Record*, May, 1924, p. 188.

CHAPTER XV

SUPERVISORY GUIDANCE IN THE CONSTRUCTION OF TEACHING PROCEDURES

I. Procedure for Constructing Teaching Procedures

1. Nature of a Teaching Difficulty. A teaching difficulty is, as we have seen, a non-functioning drive or response in any one of the several traits of purposeful activity. The outstanding feature of a teaching difficulty, in this sense, is its individuality. It might be any one of the many drives or responses connected with any one of the several traits of purposeful activity engaged in by any one of several children. In the case of one child the difficulty might be, for example, non-drive in the initiation of goal in stories, while in the case of another child it might be, for example, non-response in the initiation of improvements in stories. Teaching difficulties are, in this sense, extremely variable. This fact is fundamental, for growth in case of the teacher is along the lines of her particular difficulties in the stimulation and direction of purposeful activity, and in case of the child along the lines of its particular drives and responses in the traits of purposeful activity.

2. Source of Individual Differences in Teaching Difficulties. This variability of teaching difficulties is the result of individual differences in the nature of children. No two children are alike in any respect. They

differ in some degree in everything. They differ in height, weight, color of eyes, muscular speed—in fact children differ in all physical traits. The same is true in case of mental traits—initiation of goal, evaluation of goal, etc. No two children inherit identical systems of neural mechanisms. Their mechanisms differ widely in number, organization and modifiability, and, for this reason, there is a wide difference in children's initiation, evaluation, and choice of goal, initiation, evaluation, choice, and organization of means; execution of means; initiation, evaluation, choice and consummation of improvement; and leading to further goals. Individual differences in children are no exception; it is the rule of life. No two maple leaves are identical even though they grow on the same twig. They differ in many respects. Each possesses its own individuality. So it is with the child. Each and every child has its own system of neural mechanisms. It responds to its own stimuli in its own time and in its own manner. There is, for this reason, a wide range of differences in children's drives and responses along the traits of purposeful activity. This variability in children's drives and responses introduces extreme variability in teaching difficulties, since teaching difficulties always involve non-drive or non-response of the part of a particular child in some one of the traits of purposeful activity.

3. **Nature of Teaching Procedures.** A teaching procedure is a plan to overcome a particular teaching difficulty. It may include procedures designed to provide stimuli capable of arousing particular non-functioning drives in any one of the several traits of purposeful activity, *e.g.*, initiation of goal on the part of a particular child, or it may include procedures designed to provide direction in enabling a particular child to respond success-

fully along any one of the several traits of purposeful activity, *e.g.,* evaluation of goals. It is, in this sense, a plan calculated to stimulate and direct functioning of children's responses along their drives in the initiation, evaluation, and choice of goal; initiation, evaluation, choice and organization of means; execution of means; initiation, evaluation, choice and consummation of improvement; and in leading to further goals. Such a plan is a teaching procedure, for the function of the teacher is, as we have seen, to stimulate and direct children's responses along their drives in all the traits of purposeful activity. Its purpose is thus to further the growth of the teacher and children, for growth takes place, in case of the teacher, along the lines of her difficulties in teaching and, in case of children, along the lines of their drives and responses in the traits of purposeful activity.

4. **Individual Differences in Teaching Procedures.** Teaching procedures are extremely variable. They have a wide range. They are not in the first place peculiar to either the child's drive or response. In one instance, the procedure might involve drive and in another instance response, as, for example, providing stimuli capable of arousing children's drives in the initiation of goals, or enabling children to respond successfully in the evaluation of goals. Teaching difficulties are, in this sense, not peculiar to either the child's drive or response. They include both. They are variable in another sense. They are not peculiar to any particular trait of purposeful activity, as, for example, initiation of goals. They are, on the other hand, peculiar to all the traits of purposeful activity. The procedure, in one instance, might involve a plan to stimulate children's drives in the initiation of goals, while in another instance, it might involve a plan designed to direct children's response in the evaluation of means.

Teaching procedures are, in this sense, peculiar to all the traits of purposeful activity.

The same is equally true in case of individual and group activity. Teaching procedures are not peculiar to either one. They occur in both. In an instance of individual activity, the teaching procedure might involve, for example, stimulation of a child's drive in the initiation of improvement, while, in an instance of group activity, it might involve direction of children's response in choice of goal.

Teaching procedures are in this sense variable. They might include, in the first place, a wide range of procedures designed to provide suitable school stimuli—equipment, books, materials, apparatus, natural phenomena, community activities, etc. In the second place, they might include a wide range of procedures designed to enable children to respond successfully in the initiation, evaluation, and choice of goal; initiation, evaluation, choice and organization of means; execution of means; initiation, evaluation, choice and consummation of improvement; and leading to further goals.

The outstanding feature of a teaching procedure thus is its individuality. They are particular in every instance. They are particular in the sense that they seek in every instance to enable a particular teacher to overcome a particular difficulty involved in the stimulation or direction of a particular child pursuing a particular activity.

5. Source of Individual Differences in Teaching Procedures. Teaching procedures are, as we have seen, extremely variable. They apply solely to individual teachers. This variability is the result of individual differences in teaching difficulties. One teacher might find difficulty, for example, in stimulating a particular child's drive in the initiation of means; another might find diffi-

culty, for example, in directing response of a particular child in evaluation of goals. Since teaching procedures are plans designed to enable a particular teacher to overcome a particular teaching difficulty, they are variable, for teaching difficulties are variable. In the case of one teacher, the procedure might involve a plan designed to provide stimuli to arouse a particular child's drive in the initiation of means; in another case the procedure might involve a plan designed to enable a particular child to respond successfully in the initiation of goals. The difference in procedures in these instances is thus the result of a difference in teaching difficulties. The source of individual differences in teaching procedures is, in this sense, found in the individual differences of teaching difficulties.

6. Parts of a Teaching Procedure. Since a teaching procedure is a plan designed to overcome a particular difficulty involved in the teacher's stimulation or direction of purposeful activity, it necessarily embodies three basic parts. It includes, in the first place, a teaching difficulty. Since a teaching procedure is designed to enable a teacher to overcome her difficulties in teaching, the difficulty is a paramount step in the procedure. Without a teaching difficulty the procedure would be an aimless affair. It would make impossible the formulation of a plan to improve teaching, for the difficulty always suggests the kind of plan needed as well as guides in its construction. The teaching difficulty is, in this sense, an integral part of a teaching procedure; it is its foundation stone. In the second place, a teaching procedure includes a plan. It involves in this particular a statement of the means necessary in overcoming the teaching difficulty in question as well as how to use these means in overcoming the difficulty. The plan, in this sense, is an integral part

of a teaching procedure, for without it an attempt to overcome teaching difficulties would be for the most part a "hit or miss" affair. The procedure would lack a method of attack; it would lack intelligent effort on the part of the teacher. In the third place, a teaching procedure includes a statement of specific improvements sought in children's conduct. Since the primary function of a teaching procedure is to enable children to improve their conduct in the initiation, evaluation, and choice of goals; in initiation, evaluation, choice and organization of means; in execution of means; in the initiation, evaluation, choice and consummation of improvement; and in leading to further goals, a statement of these improvements is a fundamental part of the procedure. Without these improvements, there would be no way of knowing when a teaching difficulty had been overcome. The attainment of specific improvements in children's conduct in a particluar enterprise, is, in other words, the means of consummating progress in the correction of particular teaching difficulties. They indicate the value of the teaching plan, for it is designed in every instance to overcome a particular difficulty. Improvements in children's conduct are, in this sense, an integral part of a teaching procedure. A teaching procedure, in fine, embodies: a teaching difficulty, a teaching plan, and a teaching improvement. These steps are illustrated in the following Teaching Procedure (page 209):

7. **Rôle of the Standards of Supervision in the Construction of Teaching Procedures.** The Standards of Supervision are the supervisor's means for constructing a teaching procedure. In the first place, they reveal, as we have seen, teaching difficulties. They are, in this sense, the means for diagnosing teaching. This use is illustrated in preceding chapters. Since a teaching pro-

TEACHING PROCEDURE

1. Activity_____ 2. Grade_____ 3. Teacher_____ 4. Date_____

Teaching Difficulty	Teaching Plan	Teaching Improvement	
		Sought	Obtained

cedure always includes a teaching difficulty, these standards are basic means in determining this phase of the procedure. In the second place, they suggest the plan for overcoming a teaching difficulty. The Standard of Drive suggests, for example, in case of non-drive on the part of children in the initiation of goal that the teaching plan for overcoming this difficulty should include provision for appropriate stimulation, for drive in every instance depends upon suitable stimuli. The Standard of Success performs a similar function. It suggests, for example, in case of non-response on the part of children in the evaluation of means that the teaching plan should include direction, for successful response depends in many instances upon aid in overcoming difficulties. The Standards are, in this sense, the supervisor's means for determining the teaching plan demanded for overcoming a particular teaching difficulty. Since a teaching procedure always includes a teaching plan, these standards are fundamental in determining what this phase of the procedure should be. In the third place, the Standards of Supervision suggest the improvements in children's conduct. The Standard of Drive suggests, for example, in the case of non-drive on the part of a particular child in the initiation of means that the teaching improvement should be drive on the part of the particular child in the initiation of means. The Standards of Supervision are, in this sense, the supervisor's means for determining what teaching improvement should ensue from using a particular teaching plan. Since a teaching procedure always includes specific teaching improvements these standards are basic in formulating this phase of the procedure.

The Standards of Supervision are, in fine, the supervisor's means for enabling teachers to construct particular teaching procedures. They reveal the teaching diffi-

culty; they suggest the teaching plan; and finally they indicate the teaching improvement. And these are the steps in a teaching procedure.

8. Steps in the Construction of a Teaching Procedure. Following are the steps involved in the construction of a teaching procedure:

(1) *Teaching Difficulty.* Select the teaching difficulty according to the order in which it occurs in teaching. This order is always indicated by direct or indirect diagnosis of teaching.

(2) *Teaching Plan.* Determine whether the teaching difficulty selected involves stimulation or direction (or both) of the trait of purposeful activity in question.

(3) *Teaching Improvement.* Determine the particular improvement in children's conduct demanded in overcoming the teaching difficulty selected.

(4) *Statement of Teaching Difficulty.* State the difficulty in terms of non-drive or non-response (or both) of a particular trait of purposeful activity for particular children in the space provided in the Teaching Procedure.

(5) *Statement of Teaching Plan.* State the plan in terms of specific stimulation or direction (or both) of the particular non-drive or non-response involved in the teaching difficulty in the space provided in the Teaching Procedure.

(6) *Statement of Teaching Improvement.* State the improvement in terms of specific drive or response (or both) of a particular trait of purposeful activity for particular children in the space provided in the Teaching Procedure.

(7) *Teaching Procedure.* Fill in the spaces provided for on a Teaching Procedure the following:

1. Name of the school activity, teacher, grade, and date.
2. Statement of teaching difficulty, teaching plan, and teaching improvement.

II. Illustration in the Construction of Teaching Procedures

The following illustrate the steps involved in the construction of a teaching procedure for the conventional lesson in Community Civics analyzed in Chapter XIII.

(1) Teaching Difficulty. Non-drive and non-response in the initiation of goal in current community problems on part of all the children is the first teaching difficulty that occurs in this instance of teaching.

(2) Teaching Plan. The teaching difficulty in question involves both stimulation and direction of a particular trait of purposeful activity. Non-drive in the initiation of goal in Community Civics demands provision for current community problems and varied reference materials. Non-response in the initiation of goal in community problems demands aid on the part of the teacher in suggesting community problems to study.

(3) Teaching Improvement. The teaching improvement sought in this instance is drive and response in the initiation of one goal in current community problems on the part of all the children.

(4) Statement of Teaching Difficulty. The statement of the teaching difficulty in this instance is:

1. Non-drive and non-response on the part of all the children in the initiation of goals in community problems.

(5) Statement of Teaching Plan. The statement of the teaching plan in question is:

I. Stimulation.

1. Explain to the pupils that they may study the current problems of the community, such as:
   (*a*) How Our Mayor Performs His Duties.
   (*b*) How Our Homes Are Supplied with Light.
   (*c*) How Iten Makes Our Bread.
   (*d*) How Our Fire Department Protects Our Homes.
   (*e*) How We Get Our Water.
   (*f*) How Our Postoffice Is Run.
   (*g*) How Our Paper Is Published.
2. Advise the pupils that the following list of books will be found in the library dealing with current community problems:
   (*a*) Dunn: Community Civics for City Schools.
   (*b*) Hill: Community Life and Civic Problems.
   (*c*) Turkington: Community Civics.
   (*d*) Zeigler and Jaguette: Our Country.

(*e*) Woodburn and Moran: The American Community.
(*f*) Turkington: My Country.
(*g*) Field and Nearing: Community Civics.
(*h*) Washburn: Science of Common Things.

3. Explain to the pupils that the foregoing books deal with current community problems. Illustrate by pointing out problems found in some of the books.

II. Direction.

1. Explain to the pupils that each may suggest the community problem he wishes to study, *e.g.,* How Our Mayor Performs His Duties.
2. Suggest that some pupil volunteer to write the suggested problems on the blackboard.
3. Help each pupil, if needed, to suggest one current community problem to study.

(6) Statement of Teaching Improvement. The statement of teaching improvement sought is:

1. Drive and response in the initiation of one goal in current community problems on the part of:

Coral	Franklin	Lawrence
David	Grace	Lydia
Enid	John	May
Emma	Julia	Otto
Fred	James	Paxton

(7) The Teaching Procedure. Following is the teaching procedure illustrating the teaching difficulty, teaching plan, and teaching improvement in question:

III. Contrast with Conventional Teaching Procedures

1. Contrasts of Aims. This interpretation of teaching procedures contrasts sharply with conventional procedures in at least two respects. First, conventional procedures are extremely narrow. They are usually limited to the teacher's method of presenting certain prescribed subject matter, and quite generally include plans designed

TEACHING PROCEDURE

1. Activity *Initiation of Goal in Community Problems* 2. Teacher *Mr. Smith* 3. Date *10/20/25* Grade *9th*

Teaching Difficulty	Teaching Plan	Teaching Improvement	
		Sought	Obtained
1. Non-drive and non-response on the part of all the children in the initiation of goal in community problems.	1. Explain to the pupils that they may study such community problems as the following: (*a*) How Our Mayor Performs His Duties (*b*) How Our Homes Are Supplied With Light (*c*) How Iten Makes Our Bread (*d*) How Our Fire Department Protects Our Homes (*e*) How We Get Our Water (*f*) How Our Post Office is Run (*g*) How Our Paper is Published 2. Advise the pupils that the following books will be found in the school library dealing with community problems: (*a*) Dunn: Community Civics for City Schools (*b*) Hill: Community Life and Civic Problems (*c*) Turkington: Community Civics (*d*) Zeigler and Jaquette: Our Country (*e*) Woodburn and Moran: The American Community (*f*) Turkington: My Country (*g*) Field and Nearing: Community Civics	Drive and Response in the initiation of one goal in community problems on the part of: Coral David Enid Emma Fred Franklin Grace John Julia James Lawrence	

(*h*) Washburn: Science of Common Things (*i*) Hunter: Science of the Community	Lydia Mary Otto Paxton
3 Explain to the pupils that each may suggest the problem he wishes to study.	
4. Suggest that some pupil volunteer to write the suggested problems on the blackboard.	
. Help each pupil, if needed, to suggest one community problem to study.	

to improve such difficulties as "skill in questioning," "skill in presenting ready-made subject matter," "thoroughness of drill," and the like. The interpretation of teaching procedures advocated here is extremely broad. They have a wide range and for this reason are variable. They might include plans designed to provide suitable school equipment, apparatus, books, materials, and the like, for it is through these things that the teacher provides stimulation of children's activities. And this is not all. They might include plans designed to provide children freedom to respond successfully along the lines of their own drives in the choice of goal, formulation of plans, execution of plans, and evaluation of results, for it is through provision for such freedom to respond that the teacher directs children's activities. The first contrast is thus found in the broad and narrow interpretation of teaching procedures.

Second, conventional teaching procedures are quite general. They are usually interpreted in terms of a whole group of children participating in most any kind of enterprise and is limited to a general procedure. Such lesson plans are quite common. They usually include two parts. They include, in the first place, an itemized list of subject-matter the children are supposed to assimilate, and, in the second place, a list of questions the teacher is supposed to use in finding out whether the children have assimilated the required subject matter. They are in this sense general for they are designed for a whole class of children with very little, if any, consideration for individual differences in the nature of particular children. The teaching procedure suggested here is extremely individual. It concerns a particular drive or response of a particular child engaging in a particular enterprise under the guidance of a particular teacher. It is in this sense extremely individual and varies widely in its content and

procedure because of individual differences in children under the guidance of teachers. The second contrast is thus the general and individual interpretation of teaching procedures.

2. Differences Due to Interpretation of Education. These differences are the result of different interpretations of education. The conventional procedure is founded upon mass assimilation of certain prescribed subject-matter on the part of children. The teaching procedure is thus a means of presenting such matter and testing children's ability to reproduce it. On the other hand, the teaching procedure advocated here is founded upon education as change of the conduct of each and every individual child. The teaching procedure is in this sense a plan designed to enable a particular child to improve his conduct in carrying forward a particular enterprise. This difference is fundamental, for the very growth of children themselves depends solely upon enabling them to improve their own conduct—to improve in the initiation, evaluation, and choice of goal; initiation, evaluation, choice, and organization of means; initiation, evaluation, choice and consummation of improvement, and in leading to further goals.

FURTHER DISCUSSION

1. Mossman, L. M., *Changing Conceptions in Lesson Planning*, pp. 47–60; also pp. 26–37.
2. Dewey, *Democracy and Education*, Chs. 2 and 3.
3. Burton, C. H., *Supervision and the Improvement of Teaching*, pp. 443–502.

CHAPTER XVI

SUPERVISORY GUIDANCE IN THE EXECUTION OF TEACHING PROCEDURES

1. Nature of Execution of Teaching Procedures. The execution of a teaching procedure includes two steps. In the first place, execution demands that the teacher make available for the children the stimulation called for in a teaching procedure. It demands that the teacher, for example, provide the reference material and community problems called for in the teaching procedure designed in the preceding chapter to enable children to initiate goals in community problems. In the second place, execution demands that the teacher perform the direction called for in a teaching procedure. It demands that the teacher, for example, enable each child to initiate one community problem in the instance of the teaching procedure designed in the preceding chapter to enable boys and girls to initiate community problems. These two steps are fundamental in the execution of a teaching procedure. The former provides the stimulation necessary to arouse children's response along their drives in any one of the traits of purposeful activity; the latter sees that success attends children's response along their drives in any one of the traits of purposeful activity.

2. Nature of Supervisory Guidance in Execution of Teaching Procedures. Supervisory guidance in the execution of a teaching procedure is along two lines. It includes in every case stimulation and direction of the

teacher in the performance of the execution of a teaching procedure as follows:

(*a*) *Stimulation of the Teacher in Execution of the Teaching Procedure.* Stimulation of the teacher in the execution of a teaching procedure is along two lines. In the first place, it involves stimulation of the teacher in making available the materials called for in a teaching procedure. It might include other teacher's accounts of how they made available similar materials, or it might include suggestions found in reference books and periodicals as to how teachers might make available materials for children. In the second place, it involves stimulation of the teacher in the performance of the direction called for in a teaching procedure. This might include supervisory demonstration of how to perform direction called for in a teaching procedure; or it might include observation of another teacher's performance of direction called for in similar teaching procedures; or it might include suggestions found in books and periodicals for performing direction called for in a teaching procedure.

(*b*) *Direction of the Teacher in Execution of the Teaching Procedure.* Direction of the teacher in the execution of a teaching procedure is along two lines. First, it involves direction in making available the materials called for in the teaching procedure. This is accomplished through the supervisor aiding the teacher in securing, for example, the specific books called for in the teaching procedure, designed in the preceding chapter, to enable children to initiate goals in community problems and in aiding the teacher in this instance to make a list of possible community problems for the children to study. Second, supervisory direction involves aid in the teacher's carrying out the direction called for in a teaching procedure. It involves aid, for example, in the teacher's explanation to the children that they may study current community problems, or aid in the teacher's helping each child to suggest a community problem to study in the case of the teaching procedure designed in the preceding chapter to enable children in this instance to initiate problems to study.

3. **Rôle of the Standards of Supervision in the Execution of Teaching Procedures.** The Standards of Activity and Success are fundamental in this phase of supervisory guidance. The Standard of Activity de-

mands that the supervisor permit the teacher to execute the teaching procedure for it is, as we have seen, through participation that growth takes place along any line of endeavor. This Standard demands that the supervisor stimulate the participation of the teacher in this particular. The Standard of Success demands that the supervisor see that success attends the teacher's participation in the execution of a teaching procedure. This Standard demands that the supervisor direct the teacher in overcoming any difficulties arising in the execution of a particular teaching procedure. The Standard of Goal demands that the supervisor permit the teacher to overcome the difficulties of her children. It is only such difficulties that function as goals in the teacher's stimulation and direction of children's activities. The Standard of Drive demands that the supervisor permit the teacher to carry out her own procedures for overcoming the difficulties of her children for it is such procedures that the teacher is in a state of readiness to perform in her teaching. The Standard of "Leading on" demands that the supervisor aid the teacher in following up significant leads that arise out of the performance of a particular teaching procedure. It is through such "leads" that new lines of diagnosis of difficulties, new lines in construction of teaching procedure, new lines in the execution of teaching procedures, and new lines in the measurement of teaching improvements are suggested.

4. Steps in Supervisory Guidance in the Execution of Teaching Procedures. Following are the steps indicated in supervisory stimulation and direction of a teacher in the execution of a teaching procedure:

(1) *Stimulation in Preparing Materials.* Provide the teacher with printed matter detailing how a teacher might make available the materials called for in a teaching procedure.

(2) *Stimulation in Performing Direction.* Provide the teacher with any one or all of the following as means detailing how a teacher might perform the direction called for in a teaching procedure.

(*a*) Supervisory demonstration of performance of the direction called for in a teaching procedure.
(*b*) Observation of how other teachers perform direction called for in a similar teaching procedure.
(*c*) Reference (books and periodicals) detailing how a teacher might perform direction called for in a particular teaching procedure.
(*d*) Stenographic accounts detailing how a teacher performed direction called for in a similar teaching procedure.

(3) *Aid in Preparing Materials.* Aid the teacher in providing the specific materials called for in a teaching procedure.
(4) *Aid in Performing Direction.* Aid the teacher in performing the direction called for in a teaching procedure.

5. Illustration of Supervisory Guidance in the Execution of Teaching Procedures. The following illustrates the steps in supervisory guidance involved in the execution of the teaching procedure designed in the foregoing chapter for enabling children to initiate goals in community problems.

(1) *Stimulation in Preparing Materials.* The supervisor suggested that the teacher read the following references on how to provide the materials called for in this teaching procedure:

(*a*) Collings: *An Experiment with a Project Curriculum,* pp. 322–323.
(*b*) Dewey: *School and Society,* Ch. 1.
(*c*) Meriam: *Child Life and Curriculum,* Chs. 8 and 9.

(2) *Stimulation in Performing Direction.* The supervisor suggested that the teacher read the following references on how to perform the direction called for in this teaching procedure:

(*a*) Collings: *An Experiment with a Project Curriculum,* pp. 323–330.

(3) *Aid in Preparing Materials.* The supervisor aided the

teacher to secure the following materials called for in this teaching procedure:

(*a*) Reference Materials. The supervisor aided this teacher to secure the following books for the school library:

1. Dunn: *Community Civics for City Schools.*
2. Hill: *Community Life and Civic Problems.*
3. Turkington: *Community Civics.*
4. Zeigler and Jaquette: *Our Community.*
5. Woodburn and Moran: *The American Community.*
6. Turkington: *My Country.*
7. Field and Nearing: *Community Civics.*
8. Washburn: *Science of Common Things.*
9. Hunter: *Science of the Community.*

(*b*) List of Current Community Problems. The supervisor aided the teacher to prepare the following list of community problems:

1. How Our Mayor Performs His Duties.
2. How Our Homes Are Supplied with Light.
3. How Iten Makes Our Bread.
4. How Our Fire Department Protects Our Homes.
5. How We Get Our Water.
6. How Our Postoffice Is Run.
7. How Our Paper Is Published.

(4) *Aid in Performing Direction.* The supervisor aided the teacher in performing the direction called for in the teaching procedure as follows:

(*a*) The teacher experienced difficulty in explaining to the children fully that they could study the current problems of the community. The supervisor aided the teacher in this particular difficulty at the time.

(*b*) The teacher experienced difficulty in getting two pupils to initiate community problems to study. The supervisor aided the teacher in this particular difficulty at the time.

FURTHER DISCUSSION

1. La Rue, D. W., *Child Mind and Common Branches,* Ch. 4.

CHAPTER XVII

SUPERVISORY GUIDANCE IN MEASURING THE IMPROVEMENTS OF TEACHING

I. Procedure for Measuring Improvements of Teaching

1. Nature of Improvements in Teaching. A teaching difficulty is, as we have seen, a non-functioning drive or response on the part of a particular child in a particular trait of purposeful activity. Non-drive and non-response, for example, on the part of the children in the initiation of goals in Community Civics is a teaching difficulty. It demands the construction of a teaching procedure designed to provide these pupils stimulation and direction in the initiation of goals in community problems. The success or failure of such a teaching procedure is measured in terms of whether it brings about drive and response on the part of the pupils in this trait. This is always true, for teaching procedures are designed in every instance for the sole purpose of improving a particular teaching difficulty. Their value is determined in proportion as they achieve this end. Such a test is fundamental. It reveals to the teacher objectively the extent to which a particular procedure improves her stimulation and direction of children's activities. It is, in this sense, the measure of the success or failure of a particular teaching procedure.

Improvements of teaching involve, in this sense, tested improvements in the teacher's stimulation and direction

of children's response along their drives in the traits of purposeful activity. They include improvements of the teacher's stimulation and direction of children's drive and response in particular traits, selected combination of traits, or all traits of purposeful activity. Children's response along their drive in the initiation of goal in community problems, for example, is one improvement in teaching. It includes, in the first place, improvement in the children's conduct in this instance. They responded voluntarily (response along drive) in the pursuit of this study. In the second place, it included improvement on the part of the teacher. It indicates an improvement in the teacher's stimulation and direction of children's purposeful study. Improvements of teaching thus always involve improvements of children's conduct, for the function of the teacher is, as we have seen, to stimulate and direct children's response along their drive in the traits of purposeful activity. Improvements in children's conduct are, in this sense, the measure of the improvements in teaching.

2. Lines of Improvements in Teaching. Improvements of teaching are along three lines. The first involves improvements in children's drive and response along particular traits of purposeful activity. This line of improvement indicates improvement in the teacher's stimulation and direction of children's response along their drive in particular traits of purposeful activity, such as, for example, initiation of goal, evaluation of goals, choice of goal, etc. The second involves improvement in children's drive and response along a selected combination of traits of purposeful activity. Improvements of this kind indicate improvement in the teacher's stimulation and direction of children's response along this drive in a selected combination of traits of purpose-

ful activity, such as, for example, Initiation of Goals, Evaluation of Goals, and Choice of Goal. The third involves improvements in children's drive and response in all the traits of purposeful activity. This line of improvement indicates improvement in the teacher's stimulation and direction in each individual trait of purposeful activity. Improvements of teaching might be, in this sense, along any one of the following lines:

1. Improvements in stimulation and directions of children's response along their drive in particular traits of purposeful activity.
2. Improvements in stimulation and direction of children's response along their drive in a selected combination of traits of purposeful actiivty.
3. Improvements in stimulation and direction of children's response along their drive in all the traits of purposeful activity.

3. Procedure in the Measurement of Improvements in Teaching. The measurement of the improvements of teaching involves five distinct steps. The first step involves determination of the line of improvement. This demands that the supervisor determine whether to measure improvements in particular traits, selected combination of traits, or all traits of purposeful activity. The second step involves selection of two comparable activities to measure the line of improvement sought. This demands that the supervisor select two similar activities for measurement, such as, for example, How Our Mayor Performs His Duties and How Our Fire Department Protects Our Homes. The third step involves measurement of the drive and response of each child along the line of the improvement sought in the activities selected. This is accomplished by the supervisor scoring the drives and responses of each child through the use of the Activity Score Card. The fourth step involves computation of the Drive and Response In-

dex for all children along the line of the improvement sought in the activities selected. This is accomplished by the supervisor computing the Group Drive and Response Index along the line of the improvement sought in teaching. The fifth and last step involves expression of the Group Drive and Response Indexes in such fashion as to indicate the amount of teaching improvement obtained along the line sought. This improvement is a magnitude which can be expressed by a positive or negative quantity. If the quantity is positive, it indicates an improvement of teaching; if negative it indicates a loss in improvement. This step is accomplished by the supervisor expressing the Group Drive and Response Indexes in tabular, linguistic or graphical form.

Perhaps an itemized statement of these steps might indicate more clearly the procedure involved in the measurement of improvements in teaching.

1. Determine the line of teaching improvement, *i.e.*, improvement in particular traits, selected combination of traits, or all traits of purposeful activity.

2. Select two comparable activities to measure the line of teaching improvement desired, *e.g.*, How Our Mayor Performs His Duties and How Our Fire Department Protects Our Homes.

3. Score the drive and response of each child along the line of teaching improvement sought in the activities selected, *e.g.*, check the drives and responses of each child along the line of improvement sought in both How Our Mayor Performs His Duties and How Our Fire Department Protects Our Homes.

4. Compute the Group Drive and Response Index along the line of teaching improvement sought in the activities selected, *e.g.*, compute the Drive and Response Index for all children along the line of teaching improvement sought in How Our Mayor Performs His Duties and How Our Fire Department Protects Our Homes.

5. Express the Group Drive and Response Indexes in such fashion as to indicate the amount of teaching improvement obtained, *e.g.*, express the Group Drive and Response Indexes

obtained along the line of the teaching improvement sought in How Our Mayor Performs His Duties and How Our Fire Department Protects Our Homes in tabular, linguistic, or graphical form.

6. List the improvements of teaching obtained. Indicate the amount in each instance in terms of a positive or negative quantity.

4. Expressing Improvements of Teaching. There are three ways for expressing improvements of teaching: tabular, linguistic and chart. The tabular method involves presentation of the Drive and Response Indexes in number tables in such fashion as to indicate low and high Drive and Response Indexes. The linguistic method involves presentation of improvements of teaching in language form. It is a word description of teaching improvement, such as, for example, Mary's Drive Indexes in the Initiation of Means in How Our Mayor Performs His Duties and How Our Fire Department Protects Our Homes are 50 and 90 respectively, which indicates 40 per cent improvement in teaching in this instance. The chart method involves a pictorial presentation of improvements in teaching. There are many forms of chart presentation of improvements in teaching. The sector, bar, sector-bar, frequency surface, and curve are the more common diagrams used in the chart method. All of these are illustrated in McCall's *How to Measure in Education,* Ch. 13. Either of these forms may be used in expressing improvements in teaching. The form that presents the improvements in the most vivid and economical fashion should be the only rule of choice among them.

The chart method is probably the most effective way to express improvements of teaching. It is such for at least two reasons. First, the chart is more easily interpreted than a table of figures or language description.

It does not require as much technical skill in its interpretation as does the tabular or linguistic method and is, for this reason, more easily interpreted. Second, the chart is more quickly interpreted than either tables or language. It does not demand analyses of data in its interpretation as does the tabular or linguistic method. For both these reasons the chart method has a greater psychological appeal than do numbers or words. It is for this reason that the chart method is the most effective method for the rank and file of teachers, since all do not possess aptitudes in mathematical or literary skills demanded in the interpretation of the tabular and linguistic methods. The chart seems for this reason to be the most feasible means of expressing improvements in teaching.

5. **The Improvement Chart.** The improvement chart should express the two phases of the two improvements in teaching. First, it should express improvements in children's drives. It should indicate improvements in children's drives for particular traits, selected combination of traits, or all traits of purposeful activity. Second, it should express improvement in children's responses. It should indicate improvements in children's responses for particular traits, selected combination of traits, or all traits of purposeful activity. Such a chart may be known as An Improvement Chart for it expresses improvements in the teacher's stimulation and direction of children's purposeful activities. It expresses such improvements through indicating improvements in children's Drive and Response Indexes for particular traits, selected combination of traits, or all traits of purposeful activity.

6. **Form of the Improvement Chart.** The curve graph is perhaps the most effective diagram for express-

The Improvement Chart

1. Activities _____ 2. Teacher _____ 3. Grade _____ 4 Date _____

ACTIVITY TRAITS

Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals

INDEX 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5

INDEX 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5

First Activity _____ Second Activity _____

Fig. 16, Page 228.

ing improvements in teaching. It admits, in the first place, of charting either the Drive or Response Indexes of children on a single chart. This is desirable for it demands only one form for charting the improvements of teaching. In the second place, it admits of an unbroken diagram of the improvements in children's Drives and Responses. This is a distinct advantage for it expresses at a glance improvement in children's drives or responses for particular traits, selected combination of traits, or all traits of purposeful activity. In the third place, its construction demands minimum time and effort. The only work demanded is drawing the curve graph. This is a very decided advantage, for many teachers do not have the training, equipment, and time necessary for construction of the more complicated charts.

The following chart is designed for the curve graph. It includes space for the activities, teacher, grade, date, the activity traits, and the indexes. Two lines are to be used in charting improvements. The unbroken line indicates the Group Drive or Response Index obtained on the second measurement. This chart may be used for charting improvements in either the Drive or Response Index. One chart may be used for charting improvements in the Drive Index and another for the Response Index, since improvements of teaching are always in terms of the improvements in the drive and response of children under the guidance of a teacher, whether the school enterprise is individual or group.

7. Procedure in Constructing the Improvement Chart. Perhaps an itemized statement of the specific steps involved in the construction of the Improvement Chart may serve in understanding how to measure improvements of teaching. The following steps indicate the procedure included in the construction of an improve-

ment chart as a means for measuring the improvements of teaching:

(1) *Purpose of Measurement.* Decide on the improvement of teaching to measure, *i.e.,* whether improvement in the drive or response (or both) of a particular group of children in particular traits, selected combination of traits, or all traits of purposeful activity.

(2) *Nature of the Activity.* Decide whether individual or group activity is to be used to measure the improvement of teaching sought, *e.g.,* How John Makes His Sail Boat (individual activity) and How Our Mayor Performs His Duties (group activity).

(3) *Selection of Activities.* Select two comparable activities to measure the improvement of teaching sought, *e.g.,* How Our Mayor Performs His Duties and How Our Fire Department Protects Our Homes, if group activity is selected to measure.

(4) *Method of Measurement.* Decide on the method of measurement, *i.e.,* whether Direct or Indirect Measurement of Teaching.

(5) *Scoring Drives and Responses.* Apply the method of measurement chosen to the line of improvement sought in the activities, *i.e.,* if the line of improvement of teaching sought is improvement in both the drive and response of a third grade group of children in a selected combination of traits, for example, initiation of goals, evaluation of goals, and choice of goal, apply the measurement along that line.

(6) *Computation of Group Indexes.* Compute the Group Drive and Response Index for the line of teaching improvement sought, *i.e.,* if the improvement sought is along a selected combination of traits, in group activity, *e.g.,* initiation of goals, evaluation goals, and choice of goal in the dramatization of stories, compute the Group Drive and Response Index along these traits.

(7) *Preparing the Chart.* Fill in the activities, teacher, grade, and Index in the spaces provided for on the Improvement Chart. Prepare one chart for the Drive Index and one for the Response Index.

(8) *Charting the Improvements.* Chart the Group Drive Index and Group Response Index for each activity on the Improvement Charts, *i.e.,* chart (*a*) the Group Drive Index for each activity along the line of the teaching improvement sought

on the Improvement Chart prepared for the Drive Index, and (*b*) the Group Response Index for each activity along the teaching improvement sought on the Improvement Chart prepared for the Response Index.

(9) *Inventory of Teaching Improvements.* List the improvements of teaching as revealed by the Improvement Chart. Indicate the amount in each instance, as, for example, 50 per cent improvement in Miss Smith's (teacher) stimulation of a ninth grade group of pupils' response along their drives in the initiation of goals in the study of Community Civics.

II. An Illustration of Measuring the Improvement of Teaching

The following illustrate the steps involved in measuring the improvements of teaching:

(1) Purpose of Measurement. The purpose of measurement in this instance was to measure the improvement in the drive and response of a third grade group of children in all traits of purposeful activity.

(2) Nature of the Activity. Dramatization of stories (group activity) was the type of activity selected to measure the improvement of teaching sought in this instance.

(3) Selection of Activities. The following third grade dramatization activities were selected to measure in the order in which they are stated.

1. How to dramatize the Ugly Duckling.
2. How to dramatize Little Red Riding Hood.

(4) Method of Measurement. Direct Diagnosis of Teaching was used in both instances.

(5) Scoring Drives and Responses. The supervisor visited the classroom and scored the drives and responses of the children and teacher for both dramatizations. Figure 17 is the Activity Score Card used in the measurement of the first dramatization. It indicates the drives and responses made by the children and the teacher for each trait in the dramatization of the Ugly Duckling. Figure 18 is the Activity Score Card used in the measurement of the second dramatization. It indicates the drive and response made by the children and teacher for each trait in the dramatization of Little Red Riding Hood.

(6) Computation of Indexes. The supervisor computed the Group Drive and Response Index for each trait for both dramatizations. Figure 17 indicates the Group Drive and Response Indexes for each trait in the dramatization of the Ugly Duckling. Figure 18 indicates the Group Drive and Response Indexes for each trait in the dramatization of Little Red Riding Hood.

(7) Preparing the Chart. The supervisor prepared two Improvement Charts—one for the Drive Index and one for the Response Index.

(8) Charting the Improvements. The supervisor charted the Group Drive and Response Indexes for both dramatizations. Figure 19 is the Improvement Chart for the Group Drive Index. It indicates the Group Drive Index for each trait of both dramatizations. Figure 20 is the Improvement Chart for the Group Response Indexes. It indicates the Group Response Index for each trait of both dramatizations.

(9) Inventory of Teaching Improvements. The Improvement Charts in Figures 19 and 20 indicate two lines of improvement in teaching. First, Figure 19 indicates improvements in the teacher's stimulation of children's response along their drives in the dramatization of stories. Second, Figure 20 indicates improvement in the teacher's direction of children's responses along their drives in the dramatization of stories. These improvements are:

I. Improvements in Stimulation.

1. Thirty-two per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the initiation of goals in the dramatization of stories.
2. Eleven per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the evaluation of goals in the dramatization of stories.
3. Twenty-three per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the choice of goals in the dramatization of stories.
4. Seven per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the initiation of means in the dramatization of stories.
5. Eleven per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the evaluation of means in the dramatization of stories.
6. Twelve per cent improvement in Miss James' stimula-

THE ACTIVITY SCORE CARD USED IN DIRECT MEASUREMENT OF TEACHING IMPROVEMENTS IN THE GUIDANCE OF A STORY PROJECT

Activity Dramatization of the Ugly Duckling Grade 3rd

Teacher Miss James Date 11/15/25

PUPILS	Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
		ACTIVITY TRAITS														
Betty	D	1	0	//	///	//	//	///	////	///	///	////	////	1		
	R	1	//	///	///	///	///	////	////	////	///	////	////	1		
Bobby	D	0	//	////	////	///	0	////	////	////	///	/////	/////	1		
	R	1	///	///	////	///	///	////	////	////	///	/////	/////	1		
Earl	D	0	///	///	/////	////	///	/////	////	////	0	/////	/////	0		
	R	0	///	////	////	///	///	/////	////	////	///	/////	/////	1		
Carrie	D	1	///	//	////	///	///	////	////	////	1	0	/////	1		
	R	1	////	///	////	///	///	////	////	////	1	///	/////	1		
Doris	D	1	0	///	/////	////	/////	/////	////	////	1	/////	/////	0		
	R	1	//	/////	/////	/////	/////	/////	/////	////	/	/////	/////	0		
David	D	0	//	0	///	0	///	0	0	////	///	/////	/////	//		
	R	1	//	////	/////	////	////	1	////	////	///	/////	/////	//		
Fred	D	0	////	///	////	///	///	/////	/////	////	///	/////	0	1		
	R	0	////	///	////	///	///	/////	/////	////	///	/////	//	1		
Gay	D	1	//	///	///	//	////	/////	/////	////	///	/////	/////	1		
	R	1	///	///	////	///	///	/////	/////	////	///	/////	/////	1		
Dona	D	1	///	////	////	///	///	/////	////	///	///	/////	/////	1		
	R	1	///	/////	/////	////	////	/////	/////	///	///	/////	/////	1		
Ida	D	0	///	////	0	///	0	/////	////	0	///	0	//	0		
	R	1	///	////	///	////	///	/////	////	////	///	///	//	1		
John	D	0	//	///	/////	///	////	////	////	////	///	/////	/////	1		
	R	0	///	////	/////	////	////	/////	////	////	///	/////	/////	1		
Jim	D	1	//	///	////	//	0	////	////	////	///	/////	////	1		
	R	1	//	///	////	///	1	////	////	////	///	/////	////	1		
Julia	D	0	////	0	///	////	/////	0	//	///	0	0	/////	1		
	R	1	////	////	////	////	/////	////	////	////	1	//	/////	//		
Mary	D	1	//	///	////	////	////	////	////	////	///	/////	0	0		
	R	1	///	////	////	////	////	////	////	////	///	/////	///	0		
Ted	D	1	1	///	////	////	////	///	////	///	///	////	////	1		
	R	1	///	///	/////	////	////	////	////	////	///	/////	////	1		
Nadine	D	0	0	///	0	1	////	////	////	0	0	/////	/////	1		
	R	0	///	////	///	///	///	///	////	//	//	/////	/////	1		
Opal	D	1	//	///	////	///	////	///	////	////	///	/////	/////	1		
	R	1	///	////	/////	///	////	////	////	////	///	/////	/////	1		
Ora	D	1	//	///	////	///	////	///	////	////	///	/////	/////	1		
	R	1	//	////	/////	////	////	////	/////	/////	////	/////	/////	1		
Pat	D	0	////	////	/////	////	////	///	/////	/////	////	/////	/////	0		
	R	1	////	////	/////	////	////	////	/////	/////	////	/////	/////	1		
Teacher	D	1	/////	/////	/////	/////	/////	/////	/////	/////	/////	/////	/////	1		
	R	////	/////	/////	/////	/////	/////	/////	/////	/////	/////	/////	/////	//		
Group Total	D	13	50	60	87	66	68	87	107	92	59	105	100	17		
	R	19	65	82	106	81	82	104	126	106	70	115	115	21		
Group Index.		64	77	73	82	81	88	83	83	86	84	88	89	80		
		78	87	91	91	90	90	90	85	90	90	93	92	90		

FIG. 17, PAGE 232.

THE ACTIVITY SCORE CARD USED IN DIRECT MEASUREMENT OF TEACHING IMPROVEMENTS IN THE GUIDANCE OF A STORY PROJECT

Activity Dramatization of Little Red Riding Hood. Grade 3rd

Teacher Miss James Date 12/20/25

PUPILS	Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
		ACTIVITY TRAITS														
Betty	D	1	////	1	////	////	////	////	////	//	//	////	1	//		
	R	1	////	1	////	////	////	////	////	//	//	////	1	//		
Bobby	D	1	//	1	////	///	////	////	////	//	1	//	1	1		
	R	1	//	1	////	///	////	////	////	//	1	//	1	1		
Earl	D	1	////	1	////	////	////	////	////	//	//	1	0	0		
	R	1	////	1	////	////	////	////	////	//	//	1	0	0		
Carrie	D	1	////	1	////	////	////	////	////	//	1	////	1	1		
	R	1	////	1	////	////	////	////	////	//	1	////	1	1		
Doris	D	1	///	1	////	////	////	////	////	//	///	////	1	////		
	R	1	////	1	////	////	////	////	////	//	///	////	1	////		
David	D	1	////	1	////	////	////	////	////	1	///	////	//	///		
	R	1	////	1	////	////	////	////	////	1	///	////	//	//		
Fred	D	1	////	1	////	////	//	////	////	//	//	////	1	//		
	R	1	////	1	////	////	//	////	////	//	//	////	1	//		
Gay	D	1	////	1	//	//	////	////	////	//	1	///	1	///		
	R	1	////	1	////	////	////	////	////	//	//	///	1	///		
Iona	D	1	////	1	////	////	////	////	////	1	//	///	1	//		
	R	1	////	1	////	////	////	////	////	1	//	//	1	//		
Iola	D	1	////	1	////	////	////	////	////	///	//	///	1	//		
	R	1	////	1	////	////	////	////	////	///	//	///	1	//		
John	D	1	////	1	////	///	///	////	////	0	//	///	1	0		
	R	1	////	1	////	////	////	////	////	0	//	///	1	0		
Jim	D	1	///	1	////	////	////	////	////	///	1	///	1	//		
	R	1	///	1	////	////	////	////	////	///	1	///	1	//		
Julia	D	1	////	1	////	////	////	////	////	///	///	///	1	//		
	R	1	////	1	////	////	////	////	////	///	///	///	1	///		
Mary	D	1	///	1	////	////	////	////	////	//	0	///	1	//		
	R	1	///	1	////	////	////	////	////	//	0	///	1	//		
Ned	D	1	///	1	////	////	////	////	////	///	///	///	1	//		
	R	1	////	1	////	////	////	////	////	///	///	///	1	//		
Nadine	D	1	//	1	////	////	////	////	////	//	//	//	1	1		
	R	1	///	1	////	////	////	////	////	//	//	///	1	1		
Opal	D	1	////	1	////	////	////	////	////	//	//	///	1	1		
	R	1	////	1	////	////	////	////	////	//	//	///	1	1		
Ora	D	1	///	1	////	////	////	////	////	1	//	////	1	//		
	R	1	////	1	////	////	////	////	////	//	///	////	1	//		
Pat	D	1	////	1	////	////	////	////	////	//	///	//	1	///		
	R	1	////	1	////	////	////	////	////	//	///	//	1	///		
Teacher	D	0	//	0	///	///	0	///	//	1	1	0	0	0		
	R	0	//	0	///	///	0	///	//	1	1	0	0	0		
Group Total	D	19	72	19	89	102	73	119	164	38	38	56	19	35		
	R	19	82	19	99	111	76	119	167	40	40	57	19	35		
Group Index	D	100	88	100	89	92	100	100	98	96	96	98	100	100		
	R	100	97	100	97	98	100	97	98	98	98	100	100	100		

FIG. 18, PAGE 233.

tion of a group of third grade children's response along their drive in the choice of means in the dramatization of stories.

7. Seventeen per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the organization of means in the dramatization of stories.

8. Thirteen per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the execution of means in the dramatization of stories.

9. Ten per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the initiation of improvement in the dramatization of stories.

10. Twelve per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the evaluation of improvement in the dramatization of stories.

11. Ten per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in the choice of improvement in the dramatization of stories.

12. Thirteen per cent in Miss James' stimulation of a group of a group of third grade children's response along their drive in the consummation of improvement in the dramatization of stories.

13. Twenty per cent improvement in Miss James' stimulation of a group of third grade children's response along their drive in leading to further goals in the dramatization of stories.

II. Improvements in Direction.

1. Twenty-two per cent improvement in Miss James' direction of a third grade group of children's response along their drive in the initiation of goals in the dramatization of stories.

2. Ten per cent improvement in Miss James' direction of a third grade group of children's response along their drive in the evaluation of goals in the dramatization of stories.

3. Nine per cent improvement in Miss James' direction of a third grade group of children's response along their drive in the choice of goals in the dramatization of stories.

4. Six per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the initiation of means in the dramatization of stories.

5. Eight per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the evaluation of means in the dramatization of stories.

6. Ten per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the choice of means in the dramatization of stories.

7. Seven per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the organization of means in the dramatization of stories.

8. Thirteen per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the execution of means in the dramatization of stories.

9. Eight per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the initiation of improvement in the dramatization of stories.

10. Eight per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the evaluation of improvement in the dramatization of stories.

11. Seven per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the choice of improvement in the dramatization of stories.

12. Eight per cent improvement in Miss James' direction of a group of third grade children's response along their drive in the consummation of improvement in the dramatization of stories.

13. Ten per cent improvement in Miss James' direction of a group of third grade children's response along their drive in leading to further goals in the dramatization of stories.

All of the improvements of teaching achieved in this instance are positive. They indicate that the teaching procedure used in the second instance was better than the teaching procedure used in the first instance. The Improvement Chart indicates, in this instance, improved teaching procedures.

FURTHER DISCUSSION

1. Rugg, H. O., *Statistical Methods Applied to Education*, Ch. 10.
2. McCall, W. A., *How to Measure in Education*, Ch. 13.

THE IMPROVEMENT CHART SHOWING TEACHING IMPROVEMENTS
ACHIEVED IN THE GUIDANCE OF STORY PROJECTS

1 Activities Dramatization of "Ugly Duck" Ling cards & "Red Riding Hood" 2. Teacher Miss James 3. Grade 3rd 4 Date 11/15/25

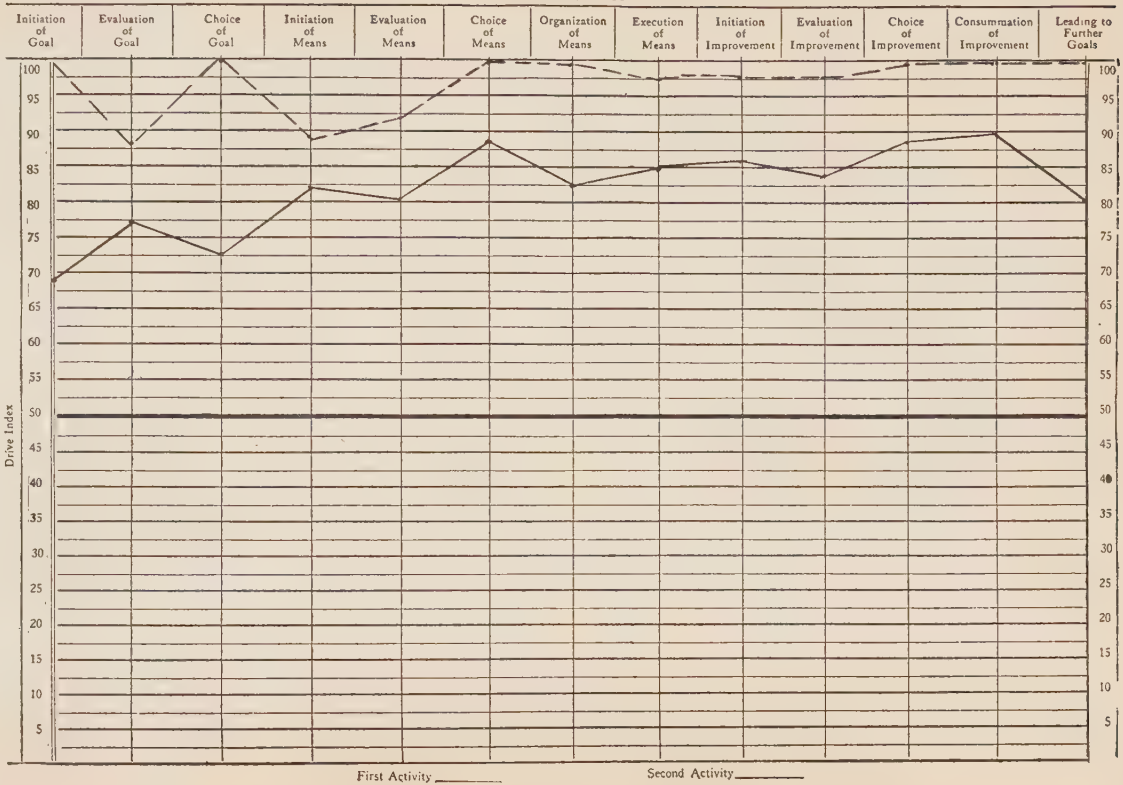


FIG. 19, PAGE 234.

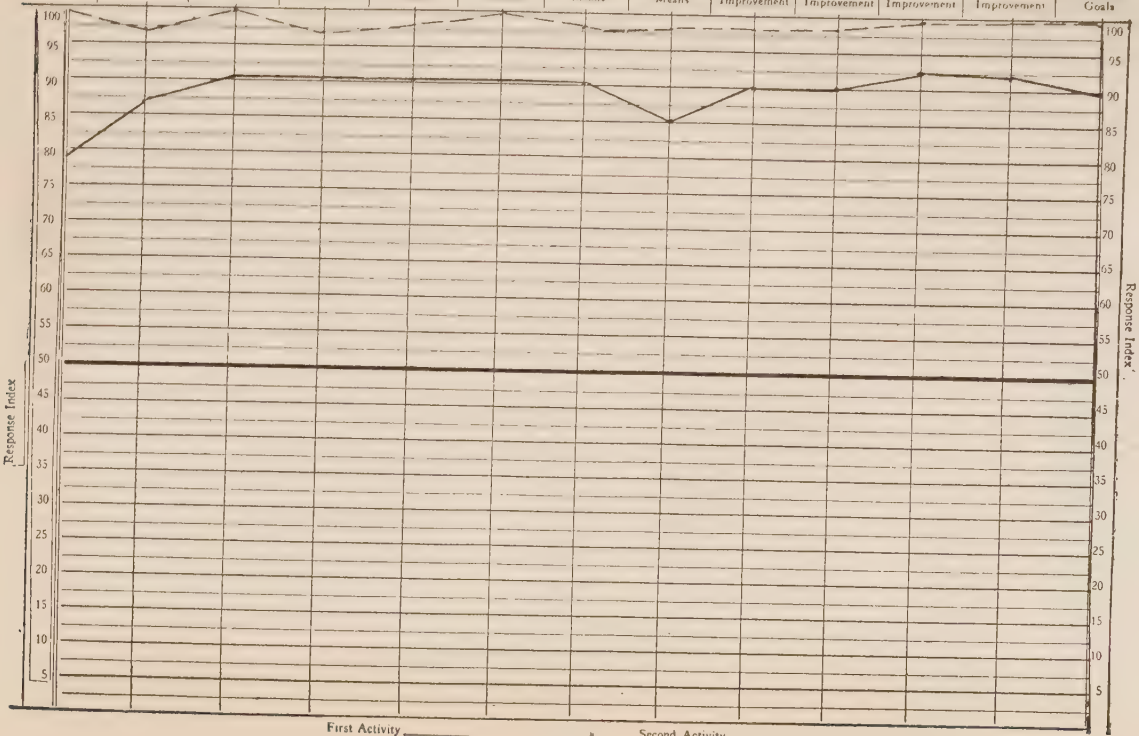
THE IMPROVEMENT CHART SHOWING TEACHING IMPROVEMENTS
ACHIEVED IN THE GUIDANCE OF STORY PROJECTS

1. Activities: Dramatization of "The Ugly Duckling" and 2. Red Riding Hood 2. Teacher Miss James 3 Grade 3rd 4 Date 11/15/25

ACTIVITY TRAITS

Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals

Response Index: 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5



First Activity _____ Second Activity _____

FIG. 20, PAGE 235.

CHAPTER XVIII

THE INDIVIDUAL TEACHER CONFERENCE

1. **Individuality of Teaching Procedures.** Teaching procedures are, as we have seen, extremely individual. They apply solely to individual teachers for no two teachers have the same difficulties in common. In the case of one teacher, the procedure might involve, for example, a plan to overcome a particular difficulty in the stimulation of a particular child's response in the evaluation of goals, while with another teacher it might involve, for example, a plan to overcome a particular difficulty in the direction of a child's drive in choice of goal. This difference in difficulties, in these instances, demands different teaching procedures, for teaching procedures seek in every instance to enable a particular teacher to overcome a particular difficulty in the stimulation or direction of a particular child's activity. They are in this sense individual.

2. **The Individual Conference.** This individuality of teaching procedures conditions the method of prognosis. It demands an individual method in every instance, for teaching procedures apply to individual teachers. It involves in this sense a method of prognosis that assists each and every individual teacher in the construction and use of a procedure designed to overcome a particular difficulty involved in the stimulation or direction of children's purposeful activity. The method,

in other words, must be individual for functional prognosis is individual in every instance. The individual teacher conference seems to be the most feasible method of individual prognosis. It enables the supervisor, in the first place, to meet personally in conference each individual teacher for the purpose of constructing procedures intrinsically needed in overcoming her difficulties. In the second place, it enables the supervisor to assist personally in the classroom each individual teacher in the use of procedures designed to overcome particular difficulties in teaching. The individual teacher conference, in this sense, seems to be the most practical method for meeting the two basic demands of individual prognosis of teaching, namely, construction of a plan designed to overcome a particular difficulty, and use of this plan in overcoming the difficulty in actual teaching.

3. **Conference Should Follow Schoolroom Activity.** The purpose of the teacher conference is, as we have seen, to assist the teacher in constructing a procedure designed to overcome a particular difficulty. This demands that conference follow the classroom activity for at least three reasons. In the first place, a teaching procedure includes a particular teaching difficulty. There is no way of determining reliably the teaching difficulty other than through an analysis of the drives and responses of children that have functioned in carrying forward an enterprise. It is a study of such an inventory of drives and responses that results in a discovery of the nonfunctioning drives or responses. And these are the teaching difficulties. It is impossible, in this sense, to ascertain particular teaching difficulties prior to the classroom activity. Since the function of the teacher conference is to assist the teacher in discovering the particular difficulties involved in her stimulation and direc-

tion of children's activities, the conference must necessarily follow rather than precede the classroom activity. In the second place, the teacher conference is to assist the teacher in the construction of a plan designed to overcome her particular difficulties. This demands that the conference immediately follow the classroom activity, for there would be no way of determining what kind of a plan is needed to improve children's drives and responses if the conference should precede the activity. The remedial plan always includes the stimulation or direction necessary in furthering the functioning of drives or responses in children's enterprises. The purpose of the remedial plan is, in this sense, to stimulate and direct non-functioning drives and responses in children's purposeful activities. This demands that the plan be constructed following the activity for there is no way of discovering non-drives or non-responses prior to the activity. In the third place, the teacher conference is to assist the teacher to set down the improvements sought in children's conduct. Since the improvements are always in terms of changes in particular traits, selected combinations of traits, or all traits of purposeful activity, this demands that the conference follow classroom activity, for there is no way of ascertaining desired improvements in children's conduct other than an analysis of their present conduct in carrying forward an enterprise. Functional prognosis of teaching, in brief, demands in every instance that the conference follow the classroom activity, so that the conference may be devoted to an analysis of teaching difficulties involved in the stimulation and direction of children's activities, to the construction of a plan designed to overcome these difficulties and to a statement of the improvements sought in children's conduct.

4. Daily Conference. The regular teacher conference is more desirable than the irregular conference for at least two reasons. First, functional diagnosis of teaching demands that an analysis of children's conduct take place regularly—every time children engage in an enterprise. Since children usually engage in school enterprise daily, functional prognosis demands that the teacher conference take place daily since prognosis seeks continuous improvement in children's conduct along the lines of weaknesses revealed daily by diagnosis.

In the second place, the regular conference is more desirable than the irregular conference because it encourages teachers to make daily preparation for their teaching. It encourages them specifically to analyze daily their difficulties in teaching as revealed through the drives and responses of the children under their guidance, and to construct a specific procedure designed to overcome these difficulties. Since difficulties of some kind occur daily in the teacher's stimulation and direction of children's purposeful activities, there will always be a demand for some kind of daily teacher preparation. The regular daily conference affords the teacher an opportunity under the guidance of the supervisor to make such daily preparation—to construct specific procedures designed to remove particular difficulties in teaching.

Functional prognosis of teaching, in this sense, demands regular daily teacher conferences for the purpose of encouraging teachers to analyze daily the weaknesses occurring in the conduct of children under their guidance, and to construct specific procedures designed to overcome these daily conduct difficulties. The regular daily conference is desirable for it is conducive to this end.

5. Time of Conference. The teacher conference follows, as we have seen, the classroom activity. The

ideal time would be immediately after the classroom activity. This in most instances is not feasible for two reasons. First, many teachers are required to conduct classes practically during every school hour. This would prohibit the conference immediately following the classroom activity, since it is necessary for the teacher to take charge of another class. Second, most supervisors have several teachers under their charge and for this reason it would be extremely difficult to arrange a separate conference daily for each of the teachers. The practical way around these difficulties seems to be to arrange a regular hour daily for the teacher conference. In some schools from three to four in the afternoon might be set aside for the teacher conference. For schools requiring the teachers to conduct classes up to four o'clock, the only practical time seems to be from four to five o'clock daily in the afternoon. On the whole the most practical time seems to be either from 3 to 4 P.M. daily, or from 4 to 5 P.M. daily. Many schools have found these periods practicable. Other plans might be more desirable for some schools. The exact time is a practical matter that will have to be decided by each school. The only restrictions are that the hour set aside must be at a time following classroom activity and must occur daily.

6. Place of Conference. There should be a room in the school building especially equipped for the teacher conference. The room need not be large. It should contain a table and chairs so that teachers may work out their teaching procedures. In addition, it should contain a well-selected professional library of books, magazines and bulletins dealing with current problems of teaching. The room should be known as the "Teacher Conference Room," and should be used for no purpose

other than the construction of teaching procedures under the guidance of the supervisor.

7. **Procedure of Conference.** The teacher conference is, as we have seen, for the purpose of enabling teachers under the guidance of a supervisor to find difficulties and to devise procedures to overcome them. It is, in this sense, a place where the teacher learns, grows, creates, better procedures of teaching. The natural procedure underlying learning, growing, creating, should govern the teacher conference, for the process of teacher growing is no different from the process of child growing. The principles of growth—activity, goal, drive, success and leading on—set forth in the Chapter on the Standards of Supervision should prevail in the teacher conference. The teacher should be afforded, in other words, stimulation and direction on part of the supervisor to initiate, evaluate, and choose teaching difficulties (goals); to initiate, evaluate, choose and organize means (procedures) designed to overcome her difficulties; to execute her means (procedures); to initiate, evaluate, choose, and consummate improvements (in procedures); and to suggest new ways of teaching (leading on). The extent to which this procedure governs the teacher conference, in that proportion will result in teacher growth —construction of effective teaching procedures. The very growth of the teacher herself in this sense depends upon a teacher conference procedure embodying the principles of growth.

8. **Outcome of Conference.** The function of the teacher conference is, as we have seen, to guide teachers in analyzing daily the difficulties involved in the stimulation and direction of children's purposeful activities, and to construct specific teaching procedures designed to overcome these difficulties. The outcome of the confer-

ence, in this sense, is a specific teaching procedure designed for the sole purpose of stimulating and directing functioning of particular children's drives and responses in carrying forward a particular enterprise. It includes, as we have seen, three interrelated parts; teaching difficulty, teaching plan, and teaching improvement. The teaching difficulty involves the non-responses or non-drives of a particular child, as for example, non-response of Mary in the initiation of goal, or non-drive of John in choice of goal. The teaching plan includes the means (stimulation or direction) necessary to bring about voluntary functioning of non-functioning drives or responses of a particular child. It might provide for suitable stimuli, such as, for example, books, apparatus, materials, natural phenomena, etc.; or it might provide for freedom of response, as, for example, freedom to initiate goals, etc. The teaching improvement involves the changes sought in children's conduct such as, for example, the initiation of goal, or evaluation of means.

The teaching procedures should be formulated on paper for at least two reasons. In the first place it would serve as a guide for the teacher. It would indicate the teaching difficulty, the detailed means (stimulation or direction) needed to overcome the difficulty and the specific improvements sought in children's conduct. As such, it would serve as a ready reference for the teacher in guiding children's activities. In the second place, a formulated procedure would serve as a means for checking the success or failure of a particular teaching procedure, in overcoming a particular difficulty in teaching. The only way of determining the success or failure of a particular teaching procedure is to use it in overcoming the difficulty for which it is designed. The improvement, if any, actually achieved in the use of a procedure

may be checked with the improvement sought in the formulated procedure. The formulated procedure serves, in this sense, as a means of checking the value of a particular teaching procedure. It provides a record of the improvements achieved through the use of a particular teaching procedure and the improvements sought in such an instance. A comparison between the achieved and sought improvements reveals the success or failure of the teaching procedure.

The formulated teaching procedure is thus desirable for it serves, in the first place, as a ready guide for the teacher in guidance of children's activities and, in the second place, it serves as a means of checking the success or failure of particular teaching procedures. The outcome of a teacher conference involves, in this sense, a formulated teaching procedure indicating (on paper) the teaching difficulty, teaching plan (necessary stimulation or direction), and teaching improvement.

9. Conventional Conference. The individual teacher conference, as interpreted here, differs from the conventional conference in at least four fundamental particulars. In the first place, the individual conference seeks to improve difficulties in children's conduct. Its function is to discover these difficulties and construct ways for improving them. It seeks, in this sense, improvement in children's drives and responses in purposeful activity. The conventional conference seeks quite a different end. It seeks to improve teacher difficulties in presenting ready-made subject-matter. Its function is to improve some phase in the teacher's method, *e.g.,* teacher questioning in teaching certain prescribed subject-matter to boys and girls. The first contrast is thus a difference in aims. The individual conference seeks changes in children's conduct in every instance; the conventional

conference seeks improvements in the teacher's method of presenting isolated facts.

In the second place, the individual conference follows the classroom activity in every instance, for the purpose of analyzing difficulties in children's conduct as they occur from day to day, and to construct means (stimulation and direction) necessary in improving these difficulties. The individual conference studies, in this sense, the difficulties of teaching as they reveal themselves from day to day in children's activities. The conventional conference reverses this procedure. It usually precedes the classroom activity and is for the purpose of making an itemized list of facts to be taught children at the following class period, and a list of questions to propound to children in order to ascertain whether they have assimilated these facts. The second contrast is thus a difference in time of conference meetings. The individual conference follows the classroom activity in every instance, while the conventional conference precedes it.

The third difference is the interval between conferences. The individual conference takes place daily. Since new difficulties in the stimulation and direction of children's drives and responses occur daily, the individual conference occurs daily in order to construct means to overcome these difficulties. The conventional conference takes place at much longer intervals. Since its purpose is to list the subject-matter and questions to be used in teaching children, the conference usually formulates a plan involving a series of class recitations. In many instances this includes a whole week, and in some instances as much as four weeks.

The fourth contrast between these conferences is in the number of teachers included. The individual conference deals with one teacher at a time for the diffi-

culties of no two teachers are alike, owing to individual differences in children. The conventional conference quite generally deals with a group of teachers since all teachers are supposed to teach the same subject-matter during a specified time, in accordance with a certain procedure involving lesson assignments, drill exercises, class questions, teaching devices, etc. The conventional conference usually consists of group teacher meetings, reading circles, extension classes, etc., in which all teachers included study the same problems.

This difference in teacher conference is due solely to a difference in the interpretation of education. The individual conference is founded upon education as continuous change in conduct. It proceeds upon the basis that the teacher grows in and through the improvement of her difficulties as they reveal themselves in the conduct of children from day to day. Education of the teacher, in this sense, takes place through analyzing the difficulties occurring daily in the conduct of her pupils, in constructing specific procedures designed to improve these difficulties, and in the use of these procedures in the improvement of her teaching. And this demands that the individual teacher conference for no two teachers have the same difficulties in common, owing to individual differences in the nature of children.

The conventional conference is, on the other hand, founded upon education as the assimilation and reproduction of certain prescribed subject-matter. It proceeds upon the basis that the teacher improves her teaching through acquiring certain prescribed facts about teaching isolated from a particular job. Education of the teacher, in this sense, takes place largely through instruction in general deficiencies in the teacher's information about subject-matter and in methods of pre-

senting this subject-matter. It takes place quite generally through such group conferences as teacher meetings, reading circles, extension classes, etc.

This difference is fundamental, for the growth of the teacher is individual and not mass. It takes place in and through purposeful participation of the teacher on the job, and not through acquisition of information about various phases of teaching isolated from the job. The teacher grows, in this sense, on the job. And this is the function of the individual teacher conference.

FURTHER DISCUSSION

1. Mossman, *Changing Conceptions Relative to Lesson Planning,* pp. 57–62.
2. Burton, *Supervision and the Improvement of Teaching,* Ch. 16.

CHAPTER XIX

HOW THE SUPERVISOR PREPARES FOR THE TEACHER CONFERENCE

I. Supervisor's Procedure in Preparing for the Teacher Conference

1. Nature of Supervisor's Preparation. The function of the individual conference is, as we have seen, to assist the teacher to construct teaching procedures designed to improve difficulties included in her stimulation and direction of children's purposeful activities. This is its sole function. This demands that the supervisor make particular preparation with reference to the teaching procedures needed by a particular teacher before conducting a conference, since the supervisor is to assist the teacher personally in the construction of procedures designed to improve her difficulties. It demands in particular that the supervisor know prior to the conference the teaching difficulties, remedial plan, conduct improvements, and teaching helps, for these are factors intrinsically involved in the construction of teaching procedures. Supervisor preparation along these lines prior to the conference is *sine qua non* in successful conduct of a teacher conference. Without such preparation on the part of the supervisor, the conference would result in an aimless discussion between teacher and supervisor about general issues mostly outside of the present difficulties of a particular teacher. The very nature of the

individual teacher conference demands that the supervisor make a thoroughgoing preparation along the lines of particular teaching difficulties (of a particular teacher), specific teaching plans, particularized teaching improvements in the conduct of particular children, and definite teaching helps. The success of the conference in every instance depends upon such preparation. Without it, the individual teacher conference is a farce.

2. **Determining Teaching Difficulties.** The first problem in the supervisor's preparation for the teacher conference is determining the difficulties of particular teachers. This problem comes first in every instance for the difficulties suggest the nature of the teaching plan, teaching improvements, and teaching helps. The only reliable way the supervisor has of determining particular teaching difficulties is by diagnosing the teaching of particular teachers through Direct or Indirect Measurement (discussed in Chapters 12 and 13), for such reveals quantitatively the difficulties of particular teachers. It is through such measurement of teaching and expression of the results in terms of the Drive and Response Indexes that teaching difficulties are determined.

Reliable teaching difficulties are determined only through the combined results of Direct and Indirect Measurement of Teaching. That is to say, the supervisor's method of determining the difficulties of a particular teacher is through computation of the Drive and Response Indexes from the results of Direct and Indirect Measurement of Teaching. A low Drive Index, for example, obtained in such manner on the part of John, say response in initiation of goals in stories, reveals a particular teaching difficulty. It indicates a difficulty on the part of the teacher in providing stimuli suitable in arousing response on the part of John in the initiation of goals

in stories. In some instances it may be possible for the supervisor to determine the difficulties of a particular teacher through the results of either Direct or Indirect Measurement. That is, the Drive and Response Indexes computed from the results of, say, Direct Measurement, may reveal reliably the particular teaching difficulties. But in case of doubt, the supervisor should determine teaching difficulties through computing Drive and Response Indexes from the results of both Direct and Indirect Measurement, for if the supervisor fails to determine the teaching difficulty of a particular teacher, the teaching plan, teaching improvements, and teaching helps will be of no value.

This demands that the supervisor in preparing for a teacher conference should measure objectively the difficulties of particular teachers. It demands particularly that she (1) administer either Direct or Indirect Measurement, and in many instances both, (2) compute the Drive and Response Indexes for each individual child under the guidance of particular teachers, and (3) analyze the Drive and Response Indexes obtained in order to determine the difficulties of particular teachers. Without such determination of teaching difficulties, the supervisor's preparation would be faulty, unreliable at the beginning, and for this reason the teacher conference would inevitably result in failure. Its alternative would be subjective guesses on the part of the supervisors as to the difficulties of particular teachers, and such method has been proven unreliable in all instances, for too many irrelevant factors enter into such a method. The supervisor's success in conducting a teacher conference depends solely upon a knowledge of difficulties of particular teachers determined through objective measurement

of teaching, for without such knowledge she would be unable to guide teachers in determining their difficulties.

Perhaps the best way of stating a teaching difficulty is to express it in terms of non-response or non-drive of particular children participating in a particular enterprise. Non-drive, for example, on the part of John in the initiation of goal in stories is a teaching difficulty. Probably the best way to state this difficulty is: "Non-response on part of John in initiation of goals in stories." Such a statement is explicit. It indicates that the difficulty involves (i) a lack of drive, (ii) on the part of a particular child, (iii) in a particular trait of purposeful activity, (iv) in carrying forward a particular kind of activity. Definiteness in expressing teaching difficulties is fundamental, for it determines the nature of the teaching plan, teaching improvement, and teaching helps.

3. **Determining the Teaching Plan.** The second problem in the supervisor's preparation for the teacher conference is determination of the teaching plan. The teaching difficulty, if reliably determined and expressed explicitly, always suggests the nature of the teaching plan. Non-drive on the part of John, say in initiation of goals in stories, is a teaching difficulty. This difficulty suggests (i) that the weakness is in the teacher's stimulation, for drive in every instance depends upon suitable stimuli, and (ii) that the way to improve this difficulty is through providing more suitable stimuli (stories). It suggests particularly that the stories provided in this instance are unsuitable for John. Construction of plan to improve this difficulty would demand (i) a study of the stories provided already for John, (ii) a study of stories recommended as suitable for boys like John, (iii) a study of John's probable interest in such stories, (iv)

making out a specific list of stories of probable interest to John, and (v) providing these stories for John.

Construction of teaching plans, in this sense, demands research in every instance, for there is no "cut and dried" plan for improving particular teaching difficulties. The supervisor's preparation, in this respect, demands that she (i) determine whether the teaching difficulty involves weaknesses in stimulation or direction (or both) on part of the teacher, (ii) work out a plan supplying probable necessary stimulation or direction, and (iii) provide for the materials, books, apparatus, etc., demanded for use in the required stimulation or direction. Without such preparation on the part of the supervisor, she would be incapable of guiding a particular teacher in the construction of a plan designed to improve the difficulties of the latter in teaching.

The teaching plan should always be expressed in specific terms. In the case of stimulation of children's activities it should be formulated in terms of specific stimuli—specific books, apparatus, materials, etc.—considered suitable to improve the difficulty, as, for example, a specific list of stories considered suitable to stimulate John's drive in initiation of stories to read. The same is equally true in case of direction of children's activities. The plan should be expressed in terms of specific ways for affording particular children freedom to respond along the lines of their own drives, as, for example, allow John freedom to suggest the story or stories he would like to read. Unless the teaching plan is expressed in such specific terms it will be of no value in helping the supervisor to guide teachers in constructing plans designed to improve their difficulties in actual teaching. Vague statements have no place in the teaching plan, for the plan should be of such a nature that, if lost on a

street, the finder could tell specifically what to do if he should be called upon to guide the particular teacher for which the plan is designed. This is the test of the usability of a teaching plan in improving teaching.

4. Determining Teaching Improvement. Teaching improvement involves, as we have seen, changes in children's conduct as a result of a teaching plan. This demands two phases of supervisor's preparation before attempting to conduct a teacher conference. First, the supervisor should determine the changes desired in children's conduct through the use of a teaching plan. Such a statement of conduct changes is fundamental for it indicates the kind of changes desired in children's conduct through the use of a teaching plan. It tells what we want. Second, the supervisor should compare the changes in children's conduct actually resulting from the use of a teaching plan with the changes sought. This comparison is fundamental for it indicates the extent to which the changes achieved are of the kind sought. It tells what we get.

These two phases of determining teaching improvement is of very great importance. If the changes in children's conduct achieved are of the kind sought, the supervisor is assured of actual improvement on the part of teachers in overcoming difficulties. They are, in addition, the means of determining the intrinsic value of teaching plans in the improvement of particular teaching difficulties.

Since a teaching difficulty always involves non-response or non-drive on the part of a particular child, it suggests, itself, the desired changes in a particular child's conduct. Non-drive, for example, on the part of John in initiation of goals in stories is a teaching difficulty. It suggests the desired improvement in John's conduct,

namely, initiation of a particular goal in stories. Preparation of the supervisor in this particular demands that she formulate a specific list of changes in particular children's conduct as indicated through a study of their non-drives and non-responses as revealed through Direct or Indirect Measurement of Teaching. It is in this fashion that the supervisor should determine the desired changes in children's conduct.

The second phase of teaching improvement demands that the supervisor compare the changes in children's conduct actually resulting from the use of a teaching plan with the changes sought. If such a comparison is positive it indicates that the changes achieved are of the kind sought; if, on the other hand, the comparison is negative, it indicates that the changes achieved are not of the kind sought. The former indicates that the teaching plan is intrinsically valuable in the improvement of particular teaching difficulties; the latter indicates the opposite.

Perhaps the most reliable procedure for the supervisor to use in determining teaching improvements is first to formulate a specific list of changes desired in children's conduct as revealed by either, or both Direct or Indirect Measurement of Teaching. These changes may be stated in itemized fashion, as, for example, drive in the initiation of a particular goal in stories on the part of John. Second, while the teacher is using a plan designed to overcome the difficulty, the supervisor may formulate a second list of changes in the same child's conduct through the use of either (or both) Direct or Indirect Measurement. This second list will indicate what changes actually happened as a result of the remedial plan, as, for example, it might show John voluntarily initiated (drive) a particular goal in stories. A comparison of the two lists would indicate the changes

in the child's conduct actually taking place, as, for example, in the case of John it would indicate whether the change in his conduct was of the kind sought. If positive it indicates that the teacher succeeded in overcoming her difficulty. It would also indicate that the teaching plan worked successfully. If negative it would indicate the teacher failed to improve her difficulty, and that her teaching plan needs revision.

Changes in children's conduct should always be stated in specific terms. The statement should indicate the particular child, particular activity trait, and kind of activity, as, for example, drive in the initiation of one goal on the part of John in stories. Without such a specific statement of conduct changes, comparison of a particular child's conduct would be impossible, for the comparison necessitates the same child, the same activity trait, and the same kind of activity under the direction of the same teacher. This is fundamental in the supervisor's preparation for the teacher conference, otherwise she will have no means of knowing the progress of particular teachers in the improvement of their teaching.

5. Determining Teaching Helps. Teaching helps include the means the supervisor has found helpful in her own study of particular teaching difficulties, teaching plans, and teaching improvements. It includes in this sense the materials the supervisor finds helpful in her own preparation for the teacher conference, such as books, bulletins, data obtained from Direct or Indirect Measurement of Teaching, etc. Since these are discovered in the supervisor's preparation for the teacher conference, this step comes last. It includes in every instance such material as the supervisor finds helpful in her own preparation and which she considers will be of help to the teacher in similar preparation.

One source of teaching helps is the data obtained through Direct and Indirect Measurement of Teaching, since such data indicate the drives and responses of each individual child. Such data are helpful to teachers in discovering their own difficulties as well as desired changes in children's conduct. The stenographic reports connected with Indirect Measurement of Teaching, are for example, exceedingly helpful in this respect. Score Cards indicating the drives and responses of each child in the several traits of purposeful activity are also valuable helps. Such materials give the teacher, as well as the supervisor, a detailed picture of what each individual child, as well as the teacher, does in carrying forward particular enterprises.

The nature of the teaching difficulty always determines the helps in constructing the teaching plan. The teaching difficulty, for example, involved in non-drive on the part of John in the initiation of a particular goal in stories suggests that the lists of stories already provided for John, books or bulletins or articles dealing with lists of stories suitable for boys, accounts of how other teachers have provided their boys with suitable stories, etc., would be of immediate help to both the supervisor and the teacher in constructing a teaching procedure, since the difficulty involves weakness on part of the teacher in providing suitable stories. In fact, construction of a teaching plan cannot be undertaken until the supervisor and teacher have investigated such sources.

The teaching helps should be expressed in specific terms in every instance. This includes an itemized list of references giving the exact title pages, or chapters, where found, etc. Vague or general statements regarding helps are of no value to the individual teacher, for in most instances they have no bearing on the particular

teacher's problem, or are not available for ready use. A list of specific helps is fundamental, for without such it is impossible for teachers to analyze their own difficulties and construct means for improving them.

The individual teacher conference demands in every instance that the supervisor provide teachers with such a list of helps for, as we shall see later, the function of the supervisor in conducting teacher conference includes providing stimuli suitable to stimulate response of the teacher along her drive in finding her own difficulties and in constructing plans designed to improve them.

6. The Supervisor's Plan for the Teacher Conference. To further efficiency of the teacher conference, the supervisor should make a record of her preparation, including such details as will be useful for her reference during the conference. This practice of making a record of preparation will enable the supervisor to be more helpful, for it will make her thinking more tangible, definite, and specific. The very act of attempting to write out what she concludes with reference to the teaching difficulty, teaching plan, teaching improvement, and teaching helps, will necessarily incline her to be concrete, specific, and definite. If she fails to make such a record of preparation, it is very probable the supervisor might easily forget some of the needed facts, and, in such case would have a tendency to discuss in general terms rather than in particular terms. It seems highly desirable that the supervisor have before her at all times such a record of preparation as will enable her to supply teachers, if need be, with detailed facts relative to teaching difficulties, teaching plans, teaching improvements, and teaching helps, for the supervisor's task is one of stimulating and directing teacher activity in finding teaching difficulties and in construction of plans designed to improve them,

rather than lecturing to the teacher about her teaching. The form used in making a record of the supervisor's preparation should be such as will help the supervisor to hold in mind the details connected with the teaching difficulty, teaching plan, teaching improvement, and teaching helps. Perhaps, the following form is practical in this respect:

THE SUPERVISOR'S PLAN FOR THE TEACHER CONFERENCE

1. Activity_____ 2. Teacher_____ 3. Grade_____ 4. Date _____

Teaching Helps	Teaching Difficulty	Teaching Plan	Teaching Improvement	
			Sought	Achieved

This form admits of recording details in what seems the most probable order in which they will be needed in the teacher conference. The teaching helps, for example, will be needed first by the supervisor in the conference in assisting a teacher in the construction of a plan designed to improve her teaching, for such furnish the teacher with data for finding her difficulties, constructing teaching plans, and stating teaching improvements. Fol-

lowing this, comes determination of the teaching difficulty, construction of teaching plan, and formulation of teaching improvements.

The degree of detail in each step will vary much with the several types of school enterprises. The following illustrates the details involved in a supervisor's preparation for one teacher conference.

THE SUPERVISOR'S PLAN FOR THE TEACHER CONFERENCE

Activity *Story Telling* Grade *6th*

Teacher *Miss Smith* Date *4/12/24*

Teaching Helps	Teaching Difficulty	Teaching Plan	Teaching Improvement	
			Sought	Achieved
1. Meriam: Child Life and Curriculum, Ch. 15; also pp. 488-493. 2. Jordan: Children's Interests in Reading, Chs. 5 and 6. 3. Collings: An Experiment with a Project Curriculum, pp. 300–305, also pp. 321–335. 4. Results from Indirect Measurement of this class.	1. Non-drive on part of John in initiation of goals in stories.	1. Provide John with stories listed on pp. 488-493 in Meriam's Child Life and Curriculum. 2. Allow John to suggest story he would like to read from the list.	1. Drive in the initiation of one goal in stories on part of John.	

II. Illustration of the Supervisor's Procedure in Preparation for the Teacher Conference

Perhaps a statement and illustration of the steps involved in the supervisor's preparation for the teacher conference might set forth more clearly what is expected of the supervisor before attempting to conduct a teacher conference:

1. Steps in the Supervisor's Preparation for the Teacher Conference.

(1) *Determining the Teaching Difficulty.* Following are the steps involved in the supervisor's study of teaching difficulty:

(*a*) Determine the line of teaching difficulty to measure, *i.e.,* difficulties involved in the stimulation and direction of particular traits, selected combination of traits, or all traits of purposeful activity.

(*b*) Administer Direct or Indirect Measurement along the line of teaching difficulty desired to measure.

(*c*) Compute the Individual Drive and Response Indexes for each child and the teacher along the line of the teaching difficulty desired to measure.

(*d*) Study the Individual Drive and Response Indexes and make an inventory of the teaching difficulties revealed.

(*e*) Organize the teaching difficulties according to the order in which they occur in teaching.

(*f*) State the teaching difficulties in terms of non-drive or non-response (or both) for a particular child, in a particular trait, engaging in a particular enterprise.

(2) *Determining the Teaching Plan.* Following are the steps involved in the supervisor's study of the teaching procedure:

(*a*) Determine whether the teaching difficulty involves weaknesses in the teacher's stimulation or direction (or both) of children's activities.

(*b*) Construct a teaching plan through (i) study of present stimulation or direction, (ii) study of suggested stimulation or direction, (iii) comparison

of present stimulation or direction with suggested stimulation or direction, and (iv) construction of stimulation or direction that seems most likely to improve the teaching difficulty in question.

(*c*) State the teaching plan in specific terms—in terms of specific stimuli, *e.g.,* provide John with a list of story books found in Meriam's Child Life and Curriculum, pp. 448–493; or in terms of specified direction, *e.g.,* allow John to suggest the story he desires to study.

(3) *Determining the Teaching Improvement.* Following are the steps in the supervisor's study of the teaching improvement:

(*a*) Study the Individual Drive and Response Indexes of each child and state the changes desired.

(*b*) State the desired changes in specific terms, *e.g.,* drive in the initiation of at least one goal in stories on the part of John.

(4) *Determining Teaching Helps.* Following are the steps in the supervisor's study of teaching helps:

(*a*) Make a list of materials used by the supervisor in determining the teaching difficulty, teaching plan, and teaching improvement considered helpful for the teacher.

(*b*) Formulate each help in specific terms, *e.g.,* Meriam: Child Life and Curriculum, pp. 448–493.

(5) *Formulation of the Supervisor's Plan.* Write out the teaching difficulty, teaching plan, teaching improvement, and teaching helps in the following order:

(*a*) Teaching Helps.
(*b*) Teaching Difficulty.
(*c*) Teaching Plan.
(*d*) Teaching Improvement.

2. Illustration of the Steps in the Supervisor's Preparation for the Teacher Conference. The following illustrates an actual instance of how a supervisor prepared for a particular teacher conference. The class studied in this instance consisted of fifteen ninth grade pupils in a course entitled Community Civics.

(1) *Determining the Teaching Difficulty.* The supervisor chose to measure difficulties involved in the teacher's stimulation and direction of all the traits of purposeful activity. She selected Indirect Measurement as the method for measuring the teaching difficulties. The stenographic report, Activity Score Card, Activity Index Card, and list of teaching difficulties obtained in this instance are shown in Illustration III of Chapter 14. The supervisor chose the following as the teaching difficulty to overcome in this instance since it appears in the list of teaching difficulties.

Teaching Difficulty
1. Non-drive and non-response on the part of all the pupils in the initiation of goals in community problems.

(2) *Determining the Teaching Plan.* The teaching plan, in this instance, involves weaknesses in both the teacher's stimulation and direction of children's activities, for non-drive indicates, on the one hand, weakness in stimulation, and non-response, on the other hand, indicates weakness in direction. Study of the present stimulation reveals that it consists of only a text book in Community Civics and the teacher, whereas reference sources all suggest that the teacher provide pupils opportunity to study current social, economic, industrial, and political problems of the community. The same weakness is common to the teacher's direction in this instance. Instead of enabling pupils to initiate, evaluate, and choose a goal in this study, as all the reference sources suggest, the teacher, in this instance actually set up barriers, through performing these steps himself, that prohibited children's response along these lines. The teaching plan, therefore, should include (i) a varied list of current social, economic, industrial, and political problems of the community together with a varied list of reference material dealing with such problems, and (ii) provision for the pupils to initiate, evaluate, and choose the community problems they desire to study. This plan was stated as follows:

TEACHING PLAN

I. *Stimulation:*

1. *Possible Community Problems:*
   (1) How Our Mayor Performs His Duties.
   (2) How Our Homes Are Supplied With Heat.
   (3) How Mr. Jones Makes Our Ice.
   (4) How Our Fire Department Protects Our Homes.
   (5) How Our Post Office is Managed.
   (6) How Our Town Spends Its Dollar.

2. *Possible Reference Material:*
   (1) Dunn: Community Civics for City Schools.
   (2) Hall: Community Life and Civic Problems.
   (3) Turkington: Community Civics.
   (4) Washburn: Science of Common Things
   (5) Zeigler and Jaquette: Our Community.
   (6) Woodburn and Moran: The American Community.

II. *Direction—Possible Teacher Helps:*
   (1) Explain to the pupils that each may suggest the community problem he desires to study.
   (2) Suggest that some pupil write the problems on the blackboard as they are suggested.
   (3) Help each pupil, if needed, to suggest one community problem to study.

(3) *Determining the Teaching Improvement.* The Drive and Response indexes of each pupil and the teacher reveal both non-drive and non-response on the part of all the pupils in the initiation of goal in the study of Community Civics. These Indexes suggest that the desired changes in the conduct of the pupils include both drive and response in the initiation of goals in the study of community problems.

The supervisor stated the teaching improvements as follows:

TEACHING IMPROVEMENT

Sought	Obtained
Drive and response in the initiation of one community problem on the part of: 1. Coral 2. David 3. Enid 4. Emma 5. Fred 6. Franklin 7. Grace 8. John 9. Julia 10. James 11. Lawrence 12. Lydia 13. Mary 14. Otto 15. Paxton	

(4) *Determining Teaching Helps.* The supervisor made a list of the reference material found helpful in her study of the teaching difficulty, plan, and improvement. She stated these helps as follows:

TEACHING HELPS

1. Stenographic Report of the class work (Fig. 16).
2. Activity Score Card of the Class (Fig. 17).
3. Activity Index Card of the Class (Fig. 18).
4. Meriam: Child Life and Curriculum, ch. 13.
5. Collings: An Experiment with a Project Curriculum, pp. 54–86; 321–335.
6. Illustrative Projects: How Our City Manages Its Affairs,
   How Our Fire Department Protects Our Homes, and
   How Our Homes Are Lighted.

(5) *The Supervisor's Plan.* The following is a copy of the plan as formulated by the supervisor in this instance. The plan was used by the supervisor in guiding the teacher in the construction of a teaching procedure for overcoming the difficulty in question.

THE SUPERVISOR'S PLAN FOR THE TEACHER CONFERENCE

1. Activity *Community Civics* 2. Teacher *Mr. Smith* 3. Grade *9th* 4. Date *10/23/25*

Teaching Helps	Teaching Difficulty	Teaching Plan	Teaching Improvement	
			Sought	Obtained
1. Stenographic Report of Class (Fig. 16). 2. Activity Score of Class (Fig. 17). 3. Activity Index Card of Class (Fig. 18). 4. Meriam: Child Life and Curriculum, ch. 13 5. Collings: An Experiment with a Project Curriculum, pp. 54-58; 321-335. 6. Illustrative Projects: How Our City Manages Its Affairs; How Our Fire Department Protects Our Homes; and How Our City Spends Its Dollar.	1. Non-drive and non-response on the part of all the pupils in the initiation of goals in community problems.	I. *Stimulation:* 1. *Possible Community Problems:* (1) How Our Mayor Performs His Duties (2) How Our Homes Are Supplied with Heat. (3) How Mr. Jones Makes Our Ice. (4) How Our Fire Department Protects Our Homes. (5) How Our Post Office is Managed. (6) How Our Town Spends Its Dollar. 2. *Possible Reference Material:* (1) Dunn: Community Civics for City Schools. (2) Hall: Community Life and Civic Problems. (3) Turkington: Community Civics. (4) Washburn: Science of Common things. (5) Zeigler and Jaquette: Our Community. (6) Woodburn and Moran: The American Community. II. *Direction—Possible Teacher Help:* (1) Explain to pupils that each may suggest the community problem he desires to study. (2) Suggest that some pupil write the problems on the blackboard as they are suggested. (3) Help each pupil, if needed, to suggest one community problem to study.	Drive and response in the initiation of one goal in Community Problems on the part of: 1. Coral 2. David 3. Enid 4. Emma 5. Fred 6. Franklin 7. Grace 8. John 9. Julia 10. James 11. Lawrence 12. Lydia 13. Mary 14. Otto 15. Paxton	

FURTHER DISCUSSION

1. *Journal of Educational Method,* Vol. III, No. 4 (Feb., 1924), No. 5 (Jan., 1924), No. 6 (Feb., 1924), and No. 7 (March, 1924).

CHAPTER XX

HOW THE SUPERVISOR CONDUCTS THE TEACHER CONFERENCE

1. Function of Supervisor in the Teacher Conference. The function of the teacher conference is, as we have seen, to assist the teacher to construct teaching procedures designed to improve difficulties in the stimulation and direction of children's purposeful activities. Its function is, in this sense, to help the teacher to analyze her difficulties, to construct remedial plans, and to formulate desired changes in children's conduct. Since the teacher conference involves the supervisor and an individual teacher, the function of the supervisor is one of guidance. It is guidance of teachers in the construction of teaching procedure and involves, in every instance, stimulation and direction of teacher's response along her drives in choosing teacher difficulties, in constructing teaching plans, and in the formulating of teaching improvement.

This function is fundamental, for teacher growth takes place in and through the construction and use of teaching procedures designed to improve their teaching on the job. And the process of teacher growth is in nowise different from child growth. It involves, in every instance, purposeful activity—response along drive—on the part of an individual teacher. It involves, in this sense, teacher activity, a particular goal, inner drive, suc-

cess, and "leading on," for these are the conditions—principles—essential to teacher growth. This demands, in the first place, stimulation on the part of the supervisor, for teacher drive in the analysis of teaching difficulties, in the construction of teaching plans, and in the formulation of teaching improvement depends upon suitable stimulation along these lines. The function of the supervisor, in this particular, is one of supplying teachers with suitable stimuli—results of Direct and Indirect Measurement, reference material dealing with the specific instance of teaching, etc. In the second place the process of teacher growth demands supervisory direction of response on the part of individual teachers in the construction of desired teaching procedures, for teacher growth depends upon success of response, *i.e.*, success on the part of an individual teacher in doing, in making, in constructing, her own procedures. The function of the supervisor in this particular is one of removing any barriers that hinder or block successful teacher response along the lines of their own drive in the construction of teaching procedures.

The function of the supervisor in the conduct of the teacher conference is, in brief, guidance. It involves, in every instance, stimulation and direction of purposeful activity on the part of individual teachers along the lines of choice of teaching difficulty, construction of teaching plan, and formulation of desired teaching improvements.

2. **Guidance in the Choice of Teaching Difficulty.** The first function of the supervisor in the conduct of the teacher conference is guidance of the teacher in choice of teaching difficulty through stimulation and direction of the teacher's activity in this particular. The supervisor provides suitable stimulation in this respect through furnishing teachers with the results (Score Cards and

Stenographic reports) of Direct or Indirect (or both) Measurement of a particular instance of their teaching. Such data should indicate the drives and responses of each child for the several traits of purposeful activity engaged in, and should, in addition, indicate the Drive and Response Indexes of each child, for it is through study of each child's drive and response that the teacher discovers her own difficulties in teaching particular children. The Drive and Response Indexes reveal to the teacher, in other words, the extent to which children wholeheartedly participate in carrying forward an enterprise. They indicate the non-functioning drives and responses of each individual child and in so doing indicate the teacher's difficulties, for the function of teaching is, as we have seen, to stimulate and direct successful functioning of children's response along their drives in all the several traits of purposeful activity.

The supervisor affords the teacher direction in the choice of teaching difficulty through providing her opportunity to freely suggest what she considers her difficulties, to evaluate her own suggestions, and to choose what she considers the difficulty. The supervisor's function in this particular is affording the teacher opportunity to discover her own difficulties, to direct her evaluation of these difficulties, and to afford her freedom to make her own choice of difficulty. First, the supervisor should allow the teacher opportunity to set down as a result of study of the results of Direct or Indirect Measurement of her teaching what she considers her probable teaching difficulties. Second, the supervisor should discuss with the teacher each difficulty indicated with reference to its significance in the growth of particular children under her guidance. Third, the teacher should be allowed opportunity to choose what she considers her chief diffi-

culty. Supervisory direction of the teacher's choice of teaching difficulty is thus along the following lines:

1. Discovery of teaching difficulties.
2. Evaluation of teaching difficulties.
3. Choice of teaching difficulties.

3. Guidance in Construction of Teaching Plan. The second function of the supervisor is to afford the teacher guidance in the construction of a teaching plan designed to overcome the teaching difficulty in question. She performs this guidance through stimulating and directing teacher activity in this particular. Perhaps the supervisor's most effective stimulation is through providing the teacher with a specific list of teaching helps—reference material—dealing concretely with the particular teaching difficulty in question. Such helps, if properly selected, suggest to the teacher means for overcoming her difficulty. If, for example, non-drive on the part of John in initiation of a particular goal in stories is a teaching difficulty, such specific helps as Meriam's *Child Life and Curriculum,* Ch. 15; Jordan's *Children's Interest and Reading,* Chs. 5 and 6, etc., provide specific stimuli suggestive in the construction of a plan to improve this difficulty. In some instances concrete accounts detailing how other teachers have overcome a similar difficulty, or perhaps observation of teachers concerned with such a difficulty would furnish suitable stimulation in this respect. In any event, the supervisor's stimulation in this particular is through providing teachers with concrete materials dealing specifically with the difficulty in question. The teaching helps formulated by the supervisor in her own preparation play an important rôle in this phase of supervisory guidance.

In the direction of the teacher's construction of a

teaching plan, the supervisor affords the teacher freedom to suggest, evaluate, choose, and organize the means she considers valuable in improving her difficulty in teaching. In the first place, the supervisor assists the teacher in determining whether the teaching plan involves stimulation or direction (or both) of children's activities. She affords the teacher opportunity to suggest, as a result of her study of the results of Direct or Indirect Measurement of her teaching, which one of these phases the difficulty involves, helps the teacher evaluate her own suggestions, and to decide which one the teaching plan is to include. After the supervisor has assisted the teacher in determining the nature of her plan—whether it involves stimulation or direction or both—she affords the teacher opportunity to initiate, evaluate, choose, and organize the details of the plan. In most instances, the supervisor's direction in this respect is most effective if she affords the teacher opportunity to set down what she considers some possible means for overcoming the difficulty in question, by discussing with the teacher the importance of each of her suggestions, by permitting the teacher to make her own choice with reference to the means she deems valuable, and by allowing the teacher opportunity to organize the means in the order of their probable use in teaching. The supervisor's direction in this particular is, in other words, along the following lines in the construction of a teaching plan:

1. Initiation of means.
2. Evaluation of means.
3. Choice of means.
4. Organization of means.

4. Guidance in Formulation of Teaching Improvement. The supervisor's third function in the conduct

of the teacher conference is to guide the teacher in the formulation of changes in the conduct of children sought through the use of the teaching plan. She performs guidance in this particular through stimulating and directing activity on the part of the teacher in analyzing the drives and responses of children as revealed by Direct or Indirect Measurement, and in choosing certain ones for improvements. Providing the teacher with the results (score cards and stenographic reports) of Direct and Indirect Measurement of her teaching is the most effective stimuli the supervisor can provide in stimulation of teacher activity in this particular. Such data should indicate the Drive and Response Indexes of each individual child, for it is through the teacher's study of these Indexes that she discovers needed improvements in children's conduct. Affording the teacher opportunity to initiate, evaluate, and choose the changes in children's conduct is the most effective type of supervisory direction in this particular. That is, the most feasible supervisory direction allows the teacher to set down possible changes in children's conduct, discusses with the teacher the importance of such suggestions, and affords the teacher the opportunity to make her own choice from the suggested improvements. Supervisory direction in this particular includes the following:

1. Suggestion of conduct changes.
2. Evaluation of conduct changes.
3. Choice of conduct changes.

5. Judging the Supervisor's Guidance. Teacher growth takes place, as we have seen, in and through purposeful participation in the construction and use of procedures in teaching. Since the function of the supervisor is to stimulate and direct such participation, the

quality of supervisor guidance may be objectively determined by use of the Conduct Scale (discussed in Chapter 11), for this scale measures the drives and responses of purposeful activity. Its application to the supervisor's conduct of the teacher conference indicates (i) the extent of teacher drive in analyzing teaching difficulties, construction of remedial plan and formulation of conduct improvements, and (iii) the extent of teacher response in these phases of the teaching procedures. The Drive and Response Indexes reveal these facts. They indicate the extent to which the supervisor applies the criteria of growth in the conduct of the teacher conference, and for this reason the supervisor should judge her guidance of the teacher conference quite often in terms of this scale. Its use in this particular is no wise different from its use in judging the teacher's guidance of children's activities. The procedures in scoring, computation of indexes, etc., are the same. When applied to the teacher conference it reveals supervisory difficulties in the conduct of the teacher conference.

6. Steps in Supervisory Guidance of a Teacher Conference. Perhaps an itemized statement of the function of the supervisor in conducting teacher conferences will set forth more clearly how the supervisor is to stimulate and direct teacher activity in the constructing of teaching procedures.

I. Supervisory Stimulation in Constructing Teaching Procedures.

(1) Provide the teacher with Score Cards (indicating Drive and Response Indexes of each child) of either Direct or Indirect Measurement and stenographic records of Indirect Measurement of her teaching.

(2) Provide the teacher with a specific list of teaching

helps—concrete materials suggesting means for overcoming the teaching difficulty in question.

II. Supervisory Direction in Constructing Teaching Procedures.

Allow the teacher freedom to:

(1) Suggest possible difficulties involved in her teaching.
(2) Evaluate the suggested difficulties.
(3) Choose the most promising difficulties.
(4) Initiate possible means for overcoming the teaching difficulty in question.
(5) Evaluate the suggested means.
(6) Choose what seems to be the most promising means.
(7) Organize the means in the order of their possible use in teaching.
(8) Suggest possible improvements in the conduct of children.
(9) Evaluate the suggested conduct improvements.
(10) Choose the most promising improvements to strive for in teaching.
(11) Organize the improvements in such fashion that the extent of their attainment may be indicated.

III. Judging the Quality of Supervisor Stimulation and Direction in Constructing Teaching Procedures.

(1) The supervisor should check the teacher's drives and responses as they occur in the teacher conference by means of the Conduct Scale.
(2) The supervisor should compute the Drive and Response Indexes for the teacher and herself from the scores indicated on the Score Card of the Scale.
(3) The supervisor should analyze the Drive and Response Indexes to determine the amount of teacher purposeful participation in the conference. This indicates the quality of the supervisor's guidance.

7. An Illustration of Supervisory Guidance of the Teacher Conference. The following describes an actual instance of how a supervisor guided a teacher in the construction of a teaching procedure. The class

consisted of fifteen ninth grade pupils in the study of Community Civics. Indirect Measurement was used to measure the teaching in this instance. The topic assigned by the teacher involves a study of local government. The following shows how the supervisor conducted the teacher conference in this instance:

I. How the Supervisor Provided the Teacher Stimulation in Constructing a Teaching Procedure. The supervisor provided the teacher before the teacher conference with the following teaching helps:

1. Meriam: Child Life and Curriculum, Ch. 13.
2. Collings: An Experiment with a Project Curriculum, pp. 54–58; 321–335.
3. Illustration projects: How Our City Manages Its Affairs, How Our Fire Department Protects Our Homes, and How Our Homes Are Lighted.
4. Stenographic Report, Activity Score Card, and Activity Index Card shown in Figures 16, 17 and 18 (Chapter XIV).

II. How the Supervisor Provided the Teacher Direction in Constructing a Teaching Procedure.

1. Choice of Teaching Difficulty.
   (1) The supervisor discussed with the teacher possible teaching difficulties as revealed by the stenographic report, Activity Score Card, and Activity Index Card. The teacher suggested the following difficulties:
      (*a*) Non-drive and non-response in the initiation of goals in community problems on the part of all the children.
      (*b*) Non-drive and non-response in the evaltiation of goals in community problems on the part of all the children.
      (*c*) Non-drive and non-response in the choice of goal in community problems on the part of all the children.
      (*d*) Non-drive and non-response in the initiation of means in community problems on the part of all the children.

(*e*) Non-drive and non-response in the evaluation of means in community problems on the part of all the children.

(*f*) Non-drive and non-response in the choice of means in community problems on the part of all the children.

(*g*) Non-drive and non-response in the organization of means in community problems on the part of all the children.

(*h*) Non-drive and non-response in the execution of means in community problems on the part of all the children.

(*i*) Non-drive and non-response in the initiation of improvement in community problems on the part of all the children.

(*j*) Non-drive and non-response in the evaluation of improvement in community problems on the part of all the children.

(*k*) Non-drive and non-response in the choice of improvement in community problems on the part of all the children.

(*l*) Non-drive and non-response in the consummation of improvement in community problems on the part of all the children.

(*m*) Non-drive and non-response in originating associate goals in community problems on the part of all the children.

(2) The supervisor and teacher evaluated the suggested difficulties, pointing out the significance of each with reference to wholehearted pupil participation in school enterprises.

(3) The supervisor and teacher discussed the most promising difficulty to attack first. The teacher suggested the following:

(*a*) Non-drive and non-response on the part of all the pupils in the initiation of goal in Community Civics.

2. Construction of Teaching Plan.
   (1) Initiation of possible means. The supervisor and teacher discussed possible means for overcoming the difficulty in question. The teacher suggested the following:
      (*a*) Allow pupils to suggest things they would like to study.
      (*b*) Allow pupils to study problems of the community.
      (*c*) Provide a variety of books on Community Civics.
      (*d*) Abolish textbook study.
      (*e*) Make a list of current community problems.
      (*f*) Write the problems on the blackboard as they are suggested by the pupils.
   (2) Evaluation of Suggested Means. The supervisor and teacher discussed the suggested means with reference to securing drive and response on part of each pupil in the initiation of goals in Community Civics. The discussion brought out that the difficulty involved both drive and response on the part of each pupil and that drive and response depend solely upon freedom of pupils to suggest goals in the study of community problems. The means suggested, especially (*a*), (*b*), (*c*), (*d*), (*e*), and (*f*) seemed to have a direct bearing on the difficulty.
   (3) Choice of Possible Means. The teacher selected the following as possible means for improving his difficulty:
      (1) Explain to the pupils that they may study any problem connected with the community, such as, for example, How Our Mayor Performs His Duties, How Our Parks Are Managed, How Our Health Department Protects Our Health, How Our Homes Are Lighted, How Our Post-Office Is Managed, etc.
      (2) Allow each pupil to suggest a problem he would like to study.

(3) Provide the school library with the following books:
1. Dunn: Community Civics for City Schools.
2. Field and Nearing: Community Civics.
3. Hill: Community Life and Civic Problems.
4. Turkington: Community Civics.
5. Turkington: My Country.
6. Washburn: Science of Common Things.
7. Woodburn and Moran: The American Community.
8. Zeigler and Jaquette: Our Community.

(4) Suggest that some pupil volunteer to write the suggested problems on the blackboard.

(5) Help each pupil, if needed, to suggest one community problem to study.

(4) Organization of Means. The teacher and supervisor discussed which of the selected means should be executed first. The teacher as a result suggested the following order:

(1) Secure the following books for the school library.
1. Dunn: Community Civics for City Schools.
2. Field and Nearing: Community Civics.
3. Hill: Community Life and Civic Problems.
4. Turkington: Community Civics.
5. Turkington: My Country.
6. Washburn: Science of Common Things.
7. Woodburn and Moran: The American Community.
8. Zeigler and Jaquette: Our Community.

(2) Explain to the pupils that they may study such community problems as the following:

1. How Our Mayor Performs His Duties.
2. How Our Homes Are Supplied with Heat.
3. How Iten Makes Our Bread.
4. How Our Fire Department Protects Our Homes.
5. How We Get Our Water.
6. How Our Post-Office Is Run.
7. How Our Paper Is Published.

(3) Allow each pupil to suggest the problems he wishes to study.

(4) Help each pupil, if needed, to suggest one community problem to study.

3. Formulation of Teaching Improvement.

(1) Initiation of possible conduct improvements. The supervisor and teacher discussed possible improvements in the conduct of pupils in the study of community civics. The teacher suggested the following:

(*a*) Drive on part of each pupil in suggesting one community problem to study.

(*b*) Response on the part of each pupil in suggesting one community problem to study.

(2) Evaluation of Conduct Improvements. The supervisor and teacher discussed the desirability of the suggested conduct improvements with reference to the growth of the pupils.

(3) Choice of Conduct Improvements. The teacher selected the following as desired improvements in the conduct of his pupils in the study of Community Civics.

1. Drive on part of each pupil in the initiation of one community problem.
2. Response on the part of each pupil in initiation of one community problem.

(4) Organization of Conduct Improvements. The supervisor and teacher discussed the best way of stating the conduct improvements. The teacher suggested (and the supervisor approved) the following form:

Drive and response in the initiation of one goal in community problems on the part of:

Coral
David
Enid
etc.

III. How the Supervisor Judged Her Guidance of the Teacher Conference.

The supervisor in this instance used the Conduct Scale in judging guidance of the teacher in constructing the teaching procedure. The following Score Card and Index Card (Figures 21 and 22) indicate the rôle of the supervisor and teacher in this conference. The Index Card (Figure 22) indicates that the supervisor's stimulation in this instance was very effective. The teacher's Drive Index is 100 for all the traits. It indicates that all of his responses were voluntary and that he had an inner drive to construct his procedure. The Index Card also indicates that the supervisor's direction is successful; it indicates that she enabled the teacher to respond successfully in all the traits. The teacher's Response Index ranges from 0 to 20. It indicates that the teacher in this instance made practically all of the responses; it indicates that he suggested, evaluated, and chose the teaching difficulty; initiated, evaluated, chose and organized the teaching plan; and formulated the teaching improvement. The Drive and Response Indexes, in brief, indicate that the supervisor's guidance, in this instance, was very successful.

8. Conventional Conduct of Teacher Conference. The supervisor's function in the conduct of the teacher conference as set forth here differs from the conventional function in at least three respects. In the first place, the supervisor deals with individual teachers. She guides particular teachers in the construction of teaching procedures designed to improve their teaching on the job. In the conventional teacher conference, the supervisor

THE ACTIVITY SCORE CARD USED IN DIRECT MEASUREMENT OF THE SUPERVISOR'S GUIDANCE OF THE CONSTRUCTION OF A TEACHING PROCEDURE IN COMMUNITY CIVICS

Activity Construction of a Teacher Procedure in Community Civics Grade 9th

Teacher Mr. Smith Date 10/24/25

ACTIVITY TRAITS

PUPILS	Drive and Response	Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
Teacher	D	///	////	/	//////	//////	////	////	//////	/	//	/	/	/		
	R	///	////	/	//////	//////	////	////	//////	/	//	/	/	/		
Supervisor	D		/		/	/		/								
	R		/		/	/		/								
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Group Total	D															
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Group Index	D															
	R															

FIG. 21, PAGE 278.

THE ACTIVITY INDEX CARD USED IN DIRECT MEASUREMENT OF THE SUPERVISOR'S GUIDANCE OF THE CONSTRUCTION OF A TEACHING PROCEDURE IN COMMUNITY CIVICS

Activity Construction of a Teaching Procedure in Community Civics Grade 3rd

Teacher Miss Smith Date 10/20/25

PUPILS	Drive and Response Index	ACTIVITY TRAITS: Initiation of Goal	Evaluation of Goal	Choice of Goal	Initiation of Means	Evaluation of Means	Choice of Means	Organization of Means	Execution of Means	Initiation of Improvement	Evaluation of Improvement	Choice of Improvement	Consummation of Improvement	Leading to Further Goals	Individual Total	Individual Index
Teacher	D	100	100	100	100	100	100	100	100	100	100	100	100	100		
	R	100	80	100	80	88	100	80	100	100	100	100	100	100		
Supervisor	D	0	100	0	100	100	0	100	0	0	0	0	0	0		
	R	0	20	0	20	12	0	20	0	0	0	0	0	0		
	D															
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FIG. 22, PAGE 279.

deals with a group of teachers. She attempts to help each individual teacher through mass instruction of some sort along quite general lines. In the second place, maximum teacher activity and minimum supervisor activity is sought. The supervisor makes it possible for the individual teacher to discover her own teaching difficulties, to construct her own teaching plans, and to formulate teaching improvements. In the conventional conference the opposite quite generally prevails. It is maximum supervisor activity and minimum teacher activity. The supervisor performs all the thinking and makes all the choices personally or through some form of printed material. In the third place, the function of the supervisor is guidance in every instance. It involves supervisory stimulation and direction of teacher activity in the analysis of teaching difficulties, in the construction of teaching plans, and in the formulation of teaching improvements. The supervisor stimulates such activity through providing suitable materials (stimuli) along these lines; she directs through enabling the individual teacher to suggest, evaluate, and choose her own teaching difficulty; to initiate, evaluate, choose, and organize means considered necessary to improve the difficulty in question; and to initiate, evaluate and choose the desired improvements in the conduct of children. The function of the supervisor in the conventional conference is largely dictation. She outlines, in most instances, what she considers desirable improvements in teaching, and proceeds to instruct teachers in almost everything in general, but in almost nothing in particular!

This difference in the function of the supervisor is due solely to a difference in the interpretation of education, for the teacher conference is educational—it is the teacher's opportunity school. The function set forth in

this discussion is founded upon the interpretation of education as purposeful activity on the part of the learner —the teacher in this instance. It considers growth as the outcome of teacher participation in the construction and use of teaching procedures. The conventional function, on the other hand, is founded upon the interpretation of education as absorption of facts and principles about teaching. It considers the teacher a sponge absorbing facts and principles about the teaching process. Witness the general teachers' meetings (local, state, and national), reading circles, extension courses, etc.

This difference is quite fundamental. Teacher growth is no wise different from child growth; the process is exactly the same. The teacher grows in teaching, if she grows at all, through purposeful participation in the teaching job, for the laws of learning operate here as they do in child learning. This demands teacher activity in all phases of the teaching job—teacher conference, schoolroom, etc. The supervisor's function in relation to the teacher is exactly the same as the teacher's function in relation to children. It is guidance. It involves stimulation and direction of purposeful activity on the part of the learner—the teacher, in this instance.

FURTHER DISCUSSION

1. McMurry, F. M., *Elementary School Standards,* pp. 201–206.
2. Mossman, L. M., *Changing Conceptions in Lesson Planning,* 55–62.

CHAPTER XXI

A CLASSROOM MANAGEMENT SCALE

I. A Proposed Classroom Management Scale

1. *Content of Scale.* This scale includes the common jobs involved in the management of a classroom. They were determined through an analyses of jobs performed by various teachers in the management of classes. They represent only the jobs found common to all such teachers. The scale element values were obtained by distributing one hundred points among the thirty-two elements according to the judgment of a number of competent teachers. Further study might include additional jobs or might eliminate some of the jobs included in this scale. This scale includes thirty-two jobs found common among the teachers. The following is a copy of the proposed scale:

A CLASSROOM MANAGEMENT SCALE

1. Teacher_____ 2. Date_____

Scale Elements	Value	Achieved
1. The window sashes are lowered from the top at least six inches	7	
2. The window shades do not obstruct the fresh air inlets (at top of the windows)	4	
3. The shades are adjusted so as to prevent direct sunlight on pupils	4	
4. The room temperature is between 65 and 75 degrees Fahrenheit	10	
5. The blackboards are erased at the close of the class period	2	
6. The waste paper is deposited in the waste basket	2	

A CLASSROOM MANAGEMENT SCALE—*Continued*

Scale Elements	Value	Achieved
7. The chairs (or desks) are arranged properly at the close of the period	3	
8. The chalk troughs are clean	1	
9. The chairs (or desks) are handled without noise	2	
10. The pupil's desk (or table) is clean	2	
11. The schoolroom has at least three flowers	2	
12. The schoolroom flowers are kept in sunlight and watered daily	2	
13. The schoolroom has at least three appropriate pictures arranged properly	2	
14. The pupil's supplies are kept in the place provided	2	
15. The teacher's desk is clean	1	
16. The teacher's chair is in the proper place	1	
17. No wraps are worn (by pupils or teacher) in the classroom	3	
18. The materials (reference books, apparatus, charts, etc.) are in readiness at the beginning of the class period	4	
19. The wraps (pupil's and teacher's) are kept in the place provided	2	
20. The chalk and erasers are kept in the chalk trough	1	
21. The pupil's sit erect with feet on the floor	4	
22. The pupils move about freely and orderly	5	
23. The materials (books, papers, etc.) are collected from pupils by passing from rear toward the teacher	2	
24. The teacher passes out materials (books, papers, etc.) from nearest pupil to rear	2	
25. The books are handled with care (without bending backs, marking, dropping, etc.)	2	
26. The pupils pass into the classroom orderly	4	
27. The pupils pass out of the classroom orderly	4	
28. The teacher unpretentiously takes the classroom at the first class bell	5	
29. The school furniture has no pencil or ink marks	5	
30. The school cabinets are clean on the inside	3	
31. The apparatus (or tools) and materials are arranged neatly in the school cabinets at the close of the class period	5	
32. Natural light is utilized on sunshiny days and artificial light is used on cloudy days	6	
Total Scores	100	

Classroom Management Index_____

2. *Use of Scale.* This scale may be used by supervisors and teachers to measure the efficiency of classroom management. It indicates the jobs found common to teachers in this phase of teaching. Its application to particular teachers indicates the jobs performed as well as those omitted. It is, in this sense, a measure of particular strengths and weaknesses in the management of classes. It reveals to teachers objectively classroom management difficulties. In the second place, this scale may be used to measure improvements in the teacher's classroom management. It indicates, in this sense, the improvement a teacher makes in overcoming particular management difficulties. In brief, this scale may be used:

1. To measure management difficulties of particular teachers.
2. To measure management improvements of particular teachers.

3. *Method of Scoring.* The method of scoring is simple. It consists of checking the scale element values present in the classroom. Only the scale elements present in the classroom are so scored.

4. *The Classroom Management Index.* The Classroom Management Index is obtained by adding all the scale element values obtained by a particular teacher at one scoring.

II. Procedure for Using the Classroom Management Scale

Perhaps a statement of the steps involved in the use of the Classroom Management Scale in measuring management difficulties and improvements might be helpful in its use:

1. *Measuring Classroom Management Difficulties.*

(1) Visit the classroom of a particular teacher and check the scale element values present.

(2) Compute the Classroom Management Index.

(3) From a study of the Classroom Management Index make an inventory of management difficulties.

2. *Measuring Classroom Management Improvements.*

(1) Visit the classroom of a particular teacher at different intervals and check the scale element values present. Call the first the initial scoring, and the second the final scoring.

(2) Compute the Classroom Management Index for the initial and final scoring.

(3) Compute the classroom management improvement. The final index minus the initial index—magnitude which can be expressed quantitatively—is a measure of the improvement of classroom management. If the quantity is positive, it indicates an improvement; if negative, it indicates a lack of improvement.

III. Illustrations of Measuring Classroom Management Difficulties

The following illustrate the use of the Classroom Management Scale in the measurement of management difficulties:

1. *Scoring the Teacher's Classroom Management.* The supervisor visited the classroom of a particular teacher and scored the scale elements present. The illustration on pages 285 and 286 indicates the Scale used in this instance.

2. *Computation of the Classroom Management Index.* The supervisor added all the scale element values obtained by the teacher. The index is shown on page 286.

3. *Inventory of Management Difficulties.* The Classroom Management Index obtained by the teacher indicates difficulties in some of the scale elements, since it is under 100. Study of the scale scores indicates that the teacher has difficulty in the following:

(1) Difficulty in regulating classroom temperature.
(2) Difficulty in arranging materials before class period.
(3) Difficulty in collecting children's materials.
(4) Difficulty in arranging apparatus in school cabinets.

ILLUSTRATION OF THE USE OF THE CLASS-ROOM MANAGEMENT SCALE IN MEASURING MANAGEMENT DIFFICULTIES

1. Teacher *Miss Smith* 2. Date *6/10/25*

Scale Elements	Value	Achieved
1. The window sashes are lowered from the top at least six inches	7	X
2. The window shades do not obstruct the fresh air inlets (at top of the windows)	4	X
3. The shades are adjusted so as to prevent direct sunlight on pupils	4	X
4. The room temperature is between 65 and 75 degrees Fahrenheit	10	
5. The blackboards are erased at the close of the class period	2	X
6. The waste paper is deposited in the waste basket	2	X
7. The chairs (or desks) are arranged properly at the close of the period	3	X
8. The chalk troughs are clean	1	X
9. The chairs (or desks) are handled without noise.	2	X
10. The pupil's desk (or table) is clean	2	X
11. The schoolroom has at least three flowers	2	X
12. The schoolroom flowers are kept in sunlight and watered daily	2	X
13. The schoolroom has at least three appropriate pictures arranged properly	2	X
14. The pupil's supplies are kept in the place provided	2	X
15. The teacher's desk is clean	1	X
16. The teacher's chair is in the proper place	1	X
17. No wraps are worn (by pupils or teacher) in the classroom	3	X
18 The materials (reference books, apparatus, charts, etc.) are in readiness at the beginning of the class period	4	
19. The wraps (pupils' and teacher's) are kept in the place provided	2	X
20. The chalk and erasers are kept in the chalk trough	1	X
21. The pupils sit erect with feet on the floor	4	X
22. The pupils move about freely and orderly	5	X
23. The materials (books, papers, etc.) are collected from pupils by passing from rear toward the teacher	2	
24. The teacher passes out materials (books, papers, etc.) from nearest pupil to rear	2	X

ILLUSTRATION OF THE USE OF THE CLASS-ROOM MANAGEMENT SCALE IN MEASURING MANAGEMENT DIFFICULTIES—*Continued*

Scale Elements	Value	Achieved
25. The books are handled with care (without bending backs, marking, dropping, etc.)	2	X
26. The pupils pass into the classroom orderly	4	X
27. The pupils pass out of the classroom orderly	4	X
28. The teacher (apprentice) takes the class roll at the first class bell	3	X
29. The school furniture has no pencil or ink marks.	3	X
30. The school cabinets are clean on the inside	3	X
31. The apparatus (or tools) and materials are arranged neatly in the school cabinets at the close of the class period	5	
32. Natural light is utilized on sunshiny days and artificial light is used on cloudy days	6	X
Total Scores	100	79

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IV. Illustration in Measuring Classroom Management Improvements

The following illustrates the use of the Classroom Management Scale in measuring Classroom Management Improvement:

1. *Scoring the Teacher's Classroom Management.* The supervisor scored the teacher's classroom management on two different occasions. The illustration above indicates the scores obtained in the first measurement. That on the next page indicates the scores obtained in the second measurement.

2. *Computation of Indexes.* The supervisor computed the Classroom Management Index for both measurements. The Indexes are shown above and on page 288.

3. *Computation of Classroom Management Improvement.* The supervisor computed the classroom management improvement in this instance. There is a positive difference between the first and second Indexes in this

instance. This difference indicates 16 per cent of improvement in the teacher's classroom management.

ILLUSTRATION OF THE USE OF THE CLASS-ROOM MANAGEMENT SCALE IN MEASURING MANAGEMENT DIFFICULTIES

1. Teacher *Miss Smith* 2. Date *6/17/25*

Scale Elements	Value	Achieved
1. The window sashes are lowered from the top at least six inches	7	X
2. The window shades do not obstruct the fresh air inlets (at top of the windows)	4	X
3. The shades are adjusted so as to prevent direct sunlight on pupils	4	X
4. The room temperature is between 65 and 75 degrees Fahrenheit	10	X
5. The blackboards are erased at the close of the class period	2	X
6. The waste paper is deposited in the waste basket	2	X
7. The chairs (or desks) are arranged properly at the close of the period	3	X
8. The chalk troughs are clean	1	X
9. The chairs (or desks) are handled without noise.	2	X
10. The pupil's desk (or table) is clean	2	X
11. The schoolroom has at least three flowers	2	X
12. The schoolroom flowers are kept in sunlight and watered daily	2	X
13. The schoolroom has at least three appropriate pictures arranged properly	2	X
14. The pupil's supplies are kept in the place provided	2	X
15. The teacher's desk is clean	1	X
16. The teacher's chair is in the proper place	1	X
17. No wraps are worn (by pupils or teacher) in the classroom	3	X
18. The materials (reference books, apparatus, charts, etc.) are in readiness at the beginning of the class period	4	X
19. The wraps (pupil's and teacher's) are kept in the place provided	2	X
20. The chalk and erasers are kept in the chalk trough	1	X
21. The pupils sit erect with feet on the floor	4	X
22. The pupils move about freely and orderly	5	X
23. The materials (books, papers, etc.) are collected from pupils by passing from rear toward teacher	2	X
24. The teacher passes out materials (books, papers, etc.) from nearest pupil to rear	2	X

ILLUSTRATION OF THE USE OF THE CLASS-ROOM MANAGEMENT SCALE IN MEASURING MANAGEMENT DIFFICULTIES—*Continued*

Scale Elements	Value	Achieved
25. The books are handled with care (without bending backs, marking, dropping, etc.)	2	*X*
26. The pupils pass into the classroom orderly	4	*X*
27. The pupils pass out of the classroom orderly	4	*X*
28. The teacher (apprentice) takes the class roll at the first class bell	3	*X*
29. The school furniture has no pencil or ink marks.	3	*X*
30. The school cabinets are clean on the inside	3	*X*
31. The apparatus (or tools) and materials are arranged neatly in the school cabinets at the close of the class period	5	
32. Natural light is utilized on sunshiny days and artificial light is used on cloudy days	6	*X*
Total Scores	100	95

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FURTHER DISCUSSION

1. DRESSLAR, *School Hygiene,* pp. 221–246; 133–139; 141–171; 182–192; 194–220; 82–97; 286–288.
2. TERMAN, *Hygiene of the School Child,* Ch. 10.
3. BENNETT, *School Efficiency,* pp. 28–36; 37–52.
4. SHAW, *School Hygiene,* pp. 170–199; 135–156.

CHAPTER XXII

HOW TO INTRODUCE SUPERVISORY GUIDANCE IN THE SCHOOLS

The principle of growth applies to all the affairs of life. Things develop continuously; they do not come into existence completely all at once. This principle should guide in the improvement of teaching in schools. The plan of supervision set forth in this discussion cannot be adopted by schools. Rather, it must be adapted to existing school conditions in such fashion as to permit its continuous development along with the growth of teachers, principals, superintendents, and other school officials. This chapter attempts to set forth such a plan.

I. A Suggestive Supervisory Plan

1. **The Supervisory Unit.** The plan of supervision set forth in this discussion includes the individual school as the supervisory unit. That is, if a school system has three elementary schools, one junior high school, and one senior high school, it would include five supervisory units. Such an unit has certain distinct advantages. In the first place, it makes possible supervisory guidance of individual teachers. It makes it possible for the supervisor to spend her time personally guiding individual teachers in diagnosing teaching difficulties, constructing specific teaching procedures, executing teaching procedures in classrooms, and in measuring particular improvements of teaching on the job. It makes possible, in

a word, supervision on the job. In the second place, it makes possible continuous supervisory guidance of individual teachers. It makes it possible for the supervisor to work with individual teachers continuously throughout the year in the improvement of teaching. It enables the supervisor to work regularly day by day with particular teachers in the classrooms. In the third place, it saves time. It makes it possible for the supervisor to spend all of her time in the classrooms of, and in conferences with, individual teachers. It eliminates the time spent in traveling from one school to another. In the fourth place, it makes for mutual understanding. The supervisor working continuously with individual teachers on the job builds in the teacher and supervisor wholesome attitudes toward each other. The teacher soon discovers the supervisor as one who helps her to do better in guiding the purposeful activities of boys and girls; the supervisor comes to view supervision as helping individual teachers to do better in guiding the purposeful activities of boys and girls. The teacher, in a word, considers the supervisor as a regular part of the teaching staff—a helping teacher—and not as an outside visitor or inspector. These are the conditions intrinsic in supervisory guidance, and, for this reason, the first step in formulating a plan of supervisory guidance is as follows:

Consider each individual school of the system as a supervisory unit. Designate elementary schools as Elementary Supervisory Units; junior high schools as Junior Supervisory Units; senior high schools as Senior Supervisory Units.

The following illustrates the supervisory units of the city schools of Norman, Oklahoma. This system has four elementary schools, one junior high school, and one senior high school.

SUPERVISORY UNITS OF THE CITY SCHOOL SYSTEM OF NORMAN

Supervisory Unit 1	Supervisory Unit 3
Jefferson Elementary School 15 teachers 1 half-time principal	Lincoln Elementary School 8 teachers 1 half-time principal
Supervisory Unit 5	**Supervisory Unit 6**
Norman Junior High School 12 teachers 1 principal required to teach two subjects	Norman Senior High School 15 teachers 1 full-time principal
Supervisory Unit 2	**Supervisory Unit 4**
Washington Elementary School 7 teachers 1 half-time principal	McKinley Elementary School 7 teachers 1 half-time principal

2. The Supervising Principal. Superivsory guidance includes the principal of the school (whether elementary, junior, or senior) as the chief supervisor of the supervisory unit—the individual school. It does for at least four reasons.[1] First, the principal is the logical official of the school system to perform supervisory guidance of individual teachers. He is held responsible for the success of the individual school, and, for this reason, is expected to guide personally individual teachers in analyzing difficulties, constructing procedures, executing procedures, and measuring improvements. Then, too, the principal is head of the staff of the individual school.

[1] See Charter's *The Principal's Main Chance,* Chapter 9.

As such, he has the right to guide personally all of the teachers along these lines. Teachers recognize this fact. Second, the principal is better situated than any other official of the school system to perform continuous supervisory guidance of individual teachers. He lives with the school family. He is an intrinsic part of it. He is on the job continuously and for this reason can perform supervisory guidance of individual teachers day by day throughout the year. Third, the principal is better situated than any other official of the school system to devote all of his time to supervisory guidance of individual teachers. He is in close touch with all the teachers of his schools. His time is not wasted in traveling from one school to another. Fourth, the principal is better situated than any other official of the school system to build mutual understanding in individual teachers. Working continuously with individual teachers on the job affords him an opportunity to develop wholesome attitudes in individual teachers toward all members of the school staff. Individual teachers come to understand the principal as one who helps them to do better in guiding the purposeful activities of boys and girls. He makes it possible for the entire teaching staff to share the successes and failures of individual teachers for he has an opportunity to know them and bring them to the attention of his teachers. He leads, in a word, teachers to see that the entire staff is engaged in one big cooperative enterprise, namely, furthering the process of growing in boys and girls. The second step in formulating a plan of supervisory guidance is as follows:

Consider the principal as the chief supervisor of the supervisory unit. Designate elementary principals as Elementary Supervising Principals; junior high school principals as Junior Supervising Principals; and senior high school principals as Senior Supervising Principals.

The following illustrates the supervising principals for the School System of Norman. This diagram indicates the supervising principals for each school and the amount of time possible to be devoted to supervision.

SUPERVISING PRINCIPALS FOR THE SCHOOL SYSTEM OF NORMAN

Supervisory Unit 1	Supervisory Unit 3
Elementary Supervising Principal—half-time	Elementary Supervising Principal—half-time
Supervisory Unit 5	**Supervisory Unit 6**
Junior Supervising Principal—half-time	Senior Supervising Principal—full-time
Supervisory Unit 2	**Supervisory Unit 4**
Elementary Supervising Principal—half-time	Elementary Supervising Principal—half-time

3. The Assistant Supervising Principal. In large schools, it is impossible for the principal to perform personally supervisory guidance of all the teachers. In such cases, it is necessary for the principal to have assistance. The number of assistants always depends upon the size of the teaching staff of the individual school. It has been found in the Training School of the University of Oklahoma that one supervisor can guide at least twenty teachers successfully. This number is tentative. On this basis, if an elementary school has fifteen teachers the principal of the school could perform all of the supervisory guidance, if his entire time could be devoted to this work. On the other hand, if a junior high school has forty teachers, the principal should have at least one

assistant. The assistants should be known as Assistant Supervising Principals and should be under the direction of the principal of the school. The Assistant Supervising Principals may perform specialized guidance, as, for example, improving the teaching of social science teachers, or improving the teaching of first grade teachers. That is, they may perform departmental supervision if the schol is organized on such a basis. The third step in formulating a plan of supervisory guidance is as follows:

> Determine the number of assistant principals needed for each school of the system. Designate the assistant principals of elementary schools as Assistant Elementary Supervising Principals; of junior high schools as Assistant Junior Supervising Principals; and of senior high schools as Assistant Senior Supervising Principals. Designate the type of work to be performed by each assistant supervising principal.

In the case of the Norman School System no assistant supervising principals are needed, since each individual school has less than twenty teachers. The amount of time devoted in this system to supervision by the principals of the elementary schools and the junior high school should be increased first before providing assisting supervising principals.

4. **The Office Secretary.** In order for the principal to devote a major part of his time to supervisory guidance of individual teachers, it is necessary to relieve him of clerical duties and office routine. Such duties are essential in successful administration of a school and should be performed by a competent secretary. They should be performed by a secretary for at least two reasons. First, an office secretary is more economical. The salary of a secretary is much less than the salary of the principal. Second, a secretary is more efficient. Her

training has been along clerical lines. The principal's training is along quite different lines. He is not qualified to do such work if he is a real principal. [2]

Many schools, perhaps, cannot employ a full-time secretary. The advisable thing for such schools to do would be to employ one secretary for, say, the elementary schools and apportion the time among the schools. If, for example, there are four elementary schools in a system, the secretary could spend at least two hours daily in each school. In such a case the secretary should have a definite schedule of work. The ideal toward which to work is to provide a full-time secretary for each individual school of the system. The fourth step in formulating a program of supervisory guidance is as follows:

Provide each supervising principal with an office secretary to perform clerical duties and office routine. Determine the amount of time the secretary can devote to such duties in each individual school and formulate a schedule of work.

The following illustrates this step for the Norman School System. In this case, it is advisable at the beginning to employ a full-time secretary for the four elementary schools, and one full-time secretary for each of the junior and senior high schools. The following illustrates the schedule for the four elementary schools of this system:

OFFICE SECRETARY'S SCHEDULE FOR THE NORMAN ELEMENTARY SCHOOLS

8–10	10–12	1–2	2–5
Lincoln Elementary School	Washington Elementary School	McKinley Elementary School	Jefferson Elementary School

[2] See Charter's *The Principal's Main Chance,* Chapter 9.

5. The Supervisory Time Schedule. In order for the principal to perform supervisory guidance of individual teachers, it is necessary that the superintendent relieve him of clerical duties and classroom teaching. That is, office routine should be handled by an office secretary and the teaching performed by regular classroom teachers. It will be necessary for the principal to spend a major part of his time in the classrooms of his school and in conference with individual teachers. Perhaps, some schools cannot adopt the supervising principal idea all at once. In such cases, it is recommended that provision be made for the principal to spend as much of his time as is possible in the classrooms of his school and in conference with his teachers. The fourth step in formulating a plan of supervisory guidance is as follows:

Budget the principal's time so that a definite amount of time will be devoted daily (i) to supervisory guidance of individual teachers and (ii) to office and other duties.

The following illustrates budgeting the time of the Norman elementary and secondary principals. The first illustrates how to budget the time of the elementary principals who are required to teach half-time; the second of a junior high school principal who is required to teach two subjects; and the third of a senior high school principal who is free from teaching. The schedule in either case may be alternated each quarter so as to admit of supervisory guidance for all the teachers of the school. This is illustrated in each case. The ideal should be to continuously increase the amount of time devoted to supervisory guidance and continuously decrease the time devoted to office and other duties. This ideal is illustrated in the last instance below. Perhaps, many schools will have to begin with the first of these sched-

ules and work toward the last. It is recommended that the second be adopted as a beginning if possible.

NUMBER I

SUPERVISORY TIME SCHEDULE FOR THE NORMAN ELEMENTARY PRINCIPALS

1. FIRST QUARTER

9–12 daily	1–2 daily	2–4 daily	4–5 daily
Teaching	Office	Supervision	Conference

2. SECOND QUARTER

9–11 daily	11–12 daily	1–4 daily	4–5 daily
Supervision	Office	Teaching	Conference

3. THIRD QUARTER

9–10 daily	10–12 daily	1–4 daily	4–5 daily
Office	Supervision	Teaching	Conference

NUMBER II

SUPERVISORY TIME SCHEDULE OF THE NORMAN JUNIOR HIGH SCHOOL PRINCIPAL

1. FIRST QUARTER

9–11 daily	11–12 daily	1–4 daily	4–5 daily
Teaching	Office	Supervision	Conference

2. SECOND QUARTER

9–12 daily	1–2 daily	2–4 daily	4–5 daily
Supervision	Office	Teaching	Conference

NUMBER III

SUPERVISORY TIME SCHEDULE FOR THE NORMAN SENIOR HIGH SCHOOL PRINCIPAL

1. FIRST QUARTER

9–11 daily	11–12 daily	1–4 daily	4–5 daily
Supervision	Office	Supervision	Conference

2. SECOND QUARTER

9–12 daily	1–2 daily	2–4 daily	4–5 daily
Supervision	Office	Supervision	Conference

6. The Classroom Visitation Schedule. In order for supervisory guidance to be provided for all of the teachers of an individual school, it is necessary to formulate a classroom visitation schedule for each of the school quarters. Three points should be considered in its formulation. First, the number of classroom visitations possible daily should be ascertained. This may be determined by ascertaining the time the principal can devote to supervisory guidance and the length of the class periods. A half-time teacher-principal may devote two hours daily to supervision. In elementary schools with twenty-minute class periods this would admit of six classroom visitations daily. Second, teachers of the individual school should be grouped according to the immediate needs of individual teachers. Those in need of guidance most should be placed in group 1; those next in group 2; and those least in group 3. The immediate needs of teachers may be determined by a study of the

experience, training, successes, and failures of individual teachers in guiding the purposeful activities of boys and girls. The classroom schedule should provide guidance for group 1 first; group 2 second; and group 3 third. It should, in addition, provide guidance for all the groups each school quarter by alternating the classroom visitations at least weekly. Third, the school enterprises in which individual teachers need guidance most should be ascertained. Each teacher conducts several lines of enterprises. Some are more difficult for a particular teacher than others because of experience and training. These should be determined. They may be determined by a study of individual teachers' successes and failures in guidance of boys and girls in the different school enterprises. The classroom visitation schedule should provide guidance for these first. The fifth step in the formulation of a supervisory plan of guidance is as follows:

Arrange a classroom visitation schedule in such fashion as to admit of guidance each school quarter for all the teachers of an individual school in accordance with the immediate needs of individual teachers in particular school enterprises.

The following classroom visitation schedule illustrates the formulation of a classroom visitation schedule for the Jefferson Elementary School of the Norman School System. This school has fifteen teachers, half-time teacher-principal, and twenty-minute class periods. Study of the immediate needs of individual teachers of this school indicated that six belonged to group 1; five to group 2; and four to group 3, and that group 1 needed guidance most in reading; group 2 in home geography; and group 3 in community civics.

CLASSROOM VISITATION SCHEDULE FOR THE FIRST QUARTER OF THE JEFFERSON ELEMENTARY SCHOOL

Week	First	Second	Third
Group.....	1	2	3
Enterprise....	Reading	Local Geography	Community Civics

Week	First	Second	Third
Group.....	1	2	3
Enterprise....	Reading	Local Geography	Community Civics

This schedule provides opportunity for the principal to visit group 1 daily in reading the first and fourth weeks of the quarter; group 2 daily in local geography the second and fifth weeks of the quarter with one visitation for group 1; and group 3 daily in community civics the third and sixth weeks of the quarter with two visitations for groups 1 and 2. The schedule is very flexible. It should be re-arranged in accordance with the progress of individual teachers. This may take place any time—each school quarter, every two quarters, etc. All of the teachers meet the principal in conference daily since the classroom visitation schedule is for classroom visitations only. This point should be kept in mind.

7. **The Teacher Conference Period.** The Individual Teacher Conference is, as we have seen, fundamental in supervisory guidance of individual teachers. It should follow classroom work and should come daily. Ideally it should have a regular place on the daily schedule of studies. In many schools this will be impossible due to the fact that the teachers work all day. In such schools it is recommended that the teacher conference be held from four to five o'clock daily. This period has certain

advantages. First, it follows classroom work. This is a distinct advantage, for the conference should follow rather than precede children's work. Second, it is at a time when teachers are free from other classroom work. Many teachers teach all the periods, and could not meet any other time. It seems advisable for these reasons to hold the teacher conference daily at four for many of the schools. In some schools it may be possible to hold the teacher conference at three o'clock in the afternoon since such schools close the regular work at that time. In the University High School (University of Oklahoma) the Teacher Conference period is held daily at this time. In deciding the teacher conference period the principal of the individual school should (i) explain the purpose of the conference to all the teachers in a general meeting and (ii) discuss with them a suitable period, agreeing upon a period suitable to all teachers and following the classroom work. The sixth step in formulating a supervisory guidance plan is as follows:

Determine in consultation with the teachers a regular teacher conference period suitable to all teachers of the individual school and following the classroom work.

The following illustrate this step. The principal of the Jefferson Elementary School of the Norman System met the teachers in a general meeting at four on Monday afternoon of the first day of school for the purpose of deciding on a teacher conference period. He explained to the teachers the purpose of the conference, and why the conference should come daily and follow classroom work. The teachers discussed several periods and agreed to meet daily at four in the afternoon.

8. The Teacher Conference Room. Every school should have a teacher conference room fitted for this

work. It should include tables, chairs, and a well-selected professional library. This room should be used for no purpose other than the conference work. Most schools have a vacant room that may be used for this purpose. The University High School, for example, uses a large room formerly devoted to useless papers, broken seats, etc. If the school is unable to purchase the professional library it is recommended that the teachers and principal keep their professional books and magazines in this room in library cases made especially for this purpose. Such a plan has proved very successful in the University High School. This room should be labeled "The Teacher Conference Room" and should be available for all teachers of the individual school. The seventh step in formulating a supervisory guidance plan is as follows:

Select a room in the individual school for the teacher conference. Equip this room with suitable furniture and a professional library.

The following illustrates this step. The principal of the Jefferson School selected a small sized classroom for the teacher conference room. He secured two ten-foot tables, fifteen chairs, one book case, and one magazine rack for the room. The teachers of this school placed their books and magazines in the room consisting of the following at the beginning:

PROFESSIONAL BOOKS

KILPATRICK: *Foundations of Method.*
MERIAM: *Child Life and the Curriculum.*
BONSER: *The Elementary School Curriculum.*
COLLINGS: *An Experiment with a Project Curriculum.*
LA RUE: *Child Mind and the Common Branches.*
THORNDIKE: *Educational Psychology.*
DEWEY: *School and Society.*
MILLER: *Directing Study.*

STEVENS: *The Project Method of Education.*
HOSIC AND CHASE: *A Brief Guide to the Project Method.*
HOTCHKISS: *The Project Method in Classroom Work.*
DEWEY: *Schools of Tomorrow.*
WELLS: *A Project Curriculum.*
RAPEER: *Teaching the Common Branches.*
CHARTERS: *Methods of Teaching.*
DEWEY: *Interest and Effort in Education.*
MCCALL: *How to Measure in Education.*
DEWEY: *Democracy and Education.*
MCMURRY: *How to Study and Teaching How to Study.*
TERMAN: *How to Measure the Intelligence of Children.*
PINTNER: *Intelligence Testing.*
COLLINGS: *A Conduct Scale for the Measurement of Teaching.*
HARTMAN: *Home and Community Life.*
MCKEE: *Purposeful Handwork.*
HARTMAN: *The Child and His School.*
TERMAN: *Hygiene of the School Child.*

PROFESSIONAL MAGAZINES

Journal of Educational Method.
Elementary School Journal.
Normal Instructor and Primary Plans.
School and Society.
American School Board Journal.
Oklahoma Teacher.
Educational Review.
Journal of National Education Association.

9. Plans for the Improvement of Teacher Guidance. There are two plans for the improvement of teacher guidance. The first involves improvement of teacher guidance in terms of children's drives and responses regardless of the traits of purposeful activity. This plan considers only children's drives and responses in measuring teaching difficulties, constructing teaching procedures, executing teaching procedures, and measuring improvements of teaching. The second plan involves improvement of teaching in terms of children's responses

along their drive in the traits of purposeful activity. This plan considers children's drives and responses along the traits of purposeful activity in measuring teaching difficulties, constructing teaching procedures, executing teaching procedures, and measuring improvements of teaching. In introducing supervisory guidance in schools the first plan, perhaps, should be used at the beginning since it introduces teachers in a simple manner to teaching in terms of the purposeful activities of boys and girls. The ideal should be in every case to use the second plan as soon as conditions admit. The two plans are outlined below. The principal should discuss the two plans with his teacher and choose the most feasible one to use in classroom work. The ninth step in formulating a program of supervisory guidance is as follows:

The principal should explain to his teachers the two plans for improving teacher guidance in terms of (i) children's drives and responses and (ii) children's drives and responses along the traits of purposeful activity. They should choose the plan most feasible at the time for introducing supervisory guidance in the school.

Plan I. Improvement of Teacher Guidance in Terms of Drive and Response

(1) *Measuring Teaching Difficulties in Terms of Drive and Response.* Very little of current teaching is in terms of purposeful activity. It is all very largely in terms of textbook assignments, teacher questioning, class recitation, and testing. The Conduct Scale will, therefore, have to be adapted, at first, to this type of teaching, for it is impossible for schools to make all the changes demanded at once. Perhaps, the drive and response are the most adaptable parts of this scale. They are for two reasons. First, it is an easy matter for teachers to under-

stand the meaning and value of drive and response, especially if they have any knowledge of psychology. Second, it is easy to check the drives and responses of children in carrying forward school enterprises. It is recommended that the following form of the Conduct Scale [3] be used at first in measuring teaching difficulties. It calls the teacher's attention to teaching in terms of children's drives and responses. It includes space for the names of the children, name of the activity, and name of the teacher, grade, drive, response, total drive, total response, Drive Index, and Response Index.

The use of this form of the Conduct Scale is simple. It may be used in either Direct or Indirect Measurement of Teaching discussed in Chapters XII and XIII. The children's names are to be filled in the place provided. Each child's drives and responses are to be recorded in the columns labeled "drive" and "response" regardless of the traits of purposeful activity. The Drive and Response Indexes are computed in the same manner as described in Chapter XI. This form of the Conduct Scale indicates two things. First, the Response Index reveals whether the teacher or the children make the responses in carrying forward a school enterprise. Second, the Drive Index indicates to what extent the children pursue a school enterprise as a result of their own readiness. It reveals, in this way, two types of teaching difficulties. In the first place, it reveals difficulties connected with the teacher's stimulation of children's purposeful activities. The Drive Index indicates these difficulties. In the second place, it reveals difficulties connected with the teacher's direction of children's purposeful activities. The Response Index indicates these difficulties. The

[3] Copies of this form (Form 1) of the Conduct Scale may be obtained from Edward Brothers, Ann Arbor, Michigan.

THE ACTIVITY SCORE CARD

Activity_____ Grade_____

Teacher_____ Date_____

Pupils	Drives	Responses	Total Drives	Total Responses	Drive Index	Response Index

tenth step in formulating a program of supervisory guidance is as follows:

At the beginning, measure directly and indirectly teaching difficulties in terms of children's drives and responses regardless of the traits of purposeful activity. Compute the Drive and Response Indexes from the total drives and responses made in a particular school enterprise and list the teaching difficulties revealed.

The following illustrates the use of the modified form of the Conduct Scale in Direct Measurement of Teaching. The Scale indicates the drives, responses, Drive Index, and Response Index of each child and the teacher for a conventional third grade reading lesson. Study of the Drive and Response Indexes of each child and the teacher indicates two lines of teaching difficulties involved in this instance. The Drive Index ranges from 0 to 50. It indicates difficulties on the part of the teacher in providing appropriate stimulation—reading material. The Response Index indicates that the teacher did a major part of the class work. It indicates difficulties on the part of the teacher in directing successfully children's response. In brief, this analysis indicates two lines of teaching difficulties:

(*a*) Insufficient drive on the part of all the children in reading.
(*b*) Insufficient response on the part of all the children in reading.

(2) *Constructing the Teaching Procedure in Terms of Drive and Response.* In using the modified form of the Conduct Scale, it is necessary to construct the teaching procedure in terms of children's drives and response regardless of the traits of purposeful activity. The principal should explain to the teachers at the Teacher Conference how to construct such a teaching procedure.

ACTIVITY SCORE CARD

Activity *Conventional Reading Lesson* Grade *3rd*

Teacher *Miss Thompson* Date *5/15/25*

Pupils	Drive	Response	Total Drives	Total Responses	Drive Index	Response Index
Allen...	I	III	1	3	66	60
Baird..	I	II	1	2	50	40
Carol...	II	IIII	2	4	50	80
David..	I	IIII	1	4	25	80
John...	0	II	0	2	0	40
Lona...	I	III	1	3	33	60
Miles..	II	IIII	2	4	50	80
Nora...	I	IIII	1	4	25	80
Ruth...	II	IIII	2	4	50	80
Riley...	I	II	1	2	50	40
Stella..	I	IIIII	1	5	16	100
Stornes.	0	II	0	2	0	40
Tom...	I	II	1	2	50	40
Teacher	IIIIIIIIIII IIIIIIIIII	IIIIIIIIIII IIIIIIIIII	23	23	100	460

He should, in this connection, explain each of the three steps—teaching difficulty, teaching plan, and teaching improvement—involved in the procedure, and should assist individual teachers in making a teaching procedure to be used in teaching. The eleventh step in formulating a program of supervisory guidance is as follows:

Explain to each teacher the steps involved in a teaching procedure and assist individual teachers in constructing a teaching procedure in terms of children's drives and responses.

The following illustrates the construction of a teaching procedure in terms of children's drives and responses. The procedure is formulated for the third grade conventional reading lesson used in the measurement of teaching difficulties in terms of children's drives and responses.

TEACHING PROCEDURE FOR THIRD GRADE READING

1. *Activity:* Reading 2. *Teacher:* Miss Smith 3. *Grade:* 3rd

4. *Date:* 11/10/26

Teaching Difficulty	Teaching Plan	Teaching Improvement
1. Insufficient (i) drive and (ii) response on the part of all the children in reading.	1. *Stimulation:* Provide the children with the story books listed in Meriam's Child Life and Curriculum, p. 487. 2. *Direction:* Permit each child (i) to select the story he desires to read and (ii) to tell the story to the group of children.	1. Drive and Response on the part of each in reading.

(3) *Execution of the Teaching Procedure in Terms of Drive and Response.* At the beginning it is advisable for the principal to take charge of a group of children and show how to use the teaching procedure in teaching. The principal should afterwards assist the individual teacher in the execution of teaching procedures in actual classroom teaching. The twelfth step in formulating a program of supervisory guidance is as follows:

At the beginning the principal should take charge of a class and illustrate the use of a teaching procedure in actual classroom work. He should then assist individual teachers in using teaching procedure in the classroom work.

(4) *Measuring Improvements of Teaching in Terms of Drive and Response.* At the beginning it will be necessary to measure improvements of teaching in terms of children's drives and responses regardless of the traits of purposeful activity. This includes the following steps. First, compute the Group Drive Index. The Group Drive Index is found by dividing the total number of drives made by all children participating in an enterprise by the total number of drives made by both children and teacher in the enterprise. The formula is:

$$\text{Group Drive Index} = \frac{\text{CD}}{\text{CD} + \text{TD}}$$

(CD is symbol for child drive and TD is symbol for teacher drive.)

Second, compute the Group Response Index. The Group Response Index is found in similar manner. The formula is:

$$\text{Group Response Index} = \frac{\text{CR}}{\text{CR} + \text{TR}}$$

(CR is symbol for child response and TR is symbol for teacher response.)

Third, compute improvements in the teacher's stimulation by subtracting the earlier Group Drive Indexes from later ones. If the difference is positive it indicates improvements in the teacher's stimulation; if negative it indicates no improvement. Fourth, compute improvements in the teacher's direction by subtracting the earlier Group Response Indexes from later ones. If the difference is posi-

tive it indicates improvements in the teacher's direction; if negative it indicates no improvement. The principal should explain each of these steps to individual teachers at the Teacher Conference and should, in addition, assist individual teachers in computing improvements of teaching. The thirteenth step in formulating a program of supervisory guidance is as follows:

Assist the teacher to compute improvements of teaching from the drives and responses made by children and teacher engaging in two consecutive school enterprises. List the improvements obtained in the teacher's stimulation and direction in quantitative terms.

The following illustrates this step. The type of school enterprise selected is third-grade reading. The Group Drive Indexes obtained for ten consecutive days are: 25, 35, 38, 40, 45, 50, 60, 65, 70, and 80. The Group Response Indexes are: 20, 25, 30, 36, 42, 48, 56, 62, 68, and 78. The following Improvement Chart[4] (Figure 23) illustrates the improvements in this instance. It indicates positive improvements in the teacher's stimulation and direction. The specific improvements obtained are as follows:

(*a*) Forty-five per cent improvement in the teacher's stimulation of a third-grade reading group.
(*b*) Fifty-eight per cent improvement in the teacher's direction of a third-grade reading group.

Plan II. Improvement of Teacher Guidance in Terms of the Traits of Purposeful Activity

(1) *Measuring Teaching Difficulties in Terms of the Traits of Purposeful Activity.* The principal should first explain to teachers at the Teacher Conference the steps

[4] This form (Form 1) of the Improvement Chart may be obtained from Edwards Brothers, Ann Arbor, Michigan.

involved in measuring teaching difficulties in terms of the traits of purposeful activity. This will include scoring both directly and indirectly children's drives and responses along the traits of purposeful acitvity. The principal should then assist individual teachers in measuring both directly and indirectly teaching difficulties in their teaching. The steps are outlined in Chapters XII and XIII.

(2) *Constructing the Teaching Procedure in Terms of the Traits of Purposeful Activity.* The principal should first explain to teachers at the Teacher Conference the steps involved in formulating a teaching procedure in terms of the traits of purposeful activity. He should then assist individual teachers in formulating procedures to be used in their teaching. The steps are outlined in Chapter XV.

(3) *Executing Teaching Procedures in Terms of the Traits of Purposeful Activity.* The principal should first take charge of a class and demonstrate the use of teaching procedures constructed in terms of the traits of purposeful activity. He should then assist individual teachers in using such procedures in their classroom work. The steps are outlined in Chapter XVI.

(4) *Measuring Improvements of Teaching in Terms of the Traits of Purposeful Activity.* The principal should first explain to teachers at the Teacher Conference how to measure improvements of teaching in terms of the traits of purposeful activity. He should then assist individual teachers in measuring improvements in their teaching. The steps are outlined in Chapter XVII.

10. Measuring **Classroom Management Difficulties and Improvements.** The principal should explain first to teachers at the Teacher Conference how to use the Classroom Management Scale in measuring management

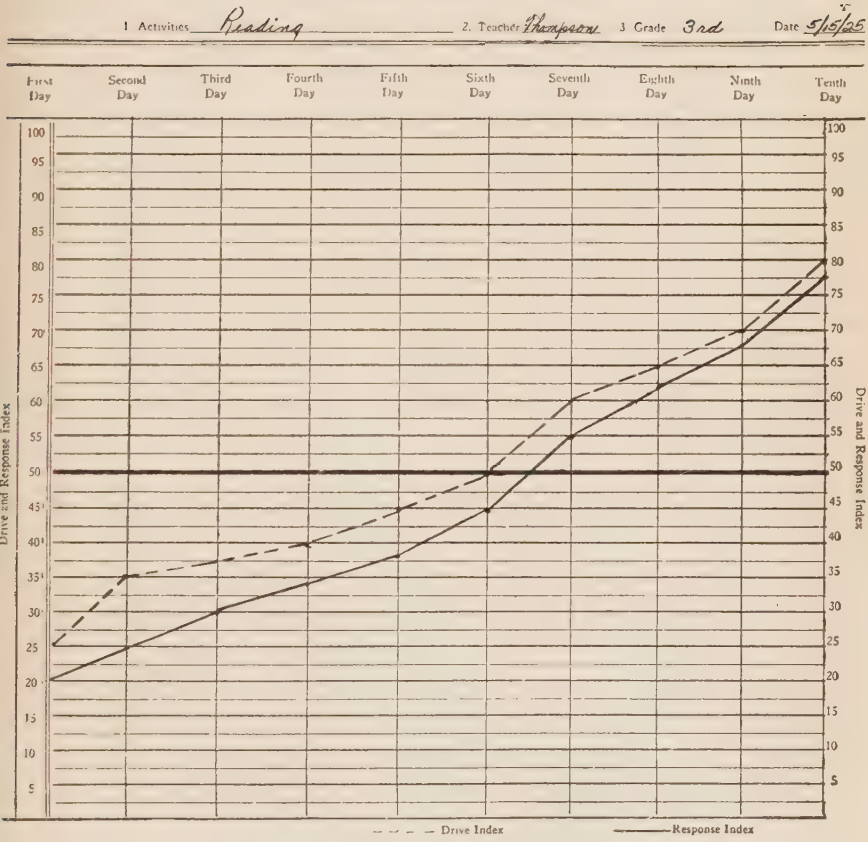

FIG. 23, PAGE 312.

difficulties and improvements. He should then assist individual teachers in measuring classroom management difficulties and improvements. The steps are outlined in Chapter XX.

II. Practice in Introducing Supervisory Guidance in the Schools

The following problems afford the student practice in introducing supervisory guidance in schools. They afford students preparing for supervisory work an opportunity to achieve some skill in performing the various phases of supervisory guidance of individual teachers before taking charge of a school. The solution of these problems, perhaps, is the best means to measure the achievement of students taking a course such as outlined in this volume. The quality of the solutions reveals to a large extent student growth in the field of supervision. Each student of a class should, for these reasons, select a school system which is conveniently located and work out the following problems of supervision:[5]

Problem 1: Select a school system for the purpose of introducing supervisory guidance in the individual schools. The school system selected should be conveniently located since the student will do supervisory guidance in one of the schools.

Problem 2: Make a diagram of the supervisory units of the system. Indicate the Elementary Supervisory Units, the Junior Supervisory Units, and the Senior Supervisory Units.

Problem 3: Make a diagram indicating the supervising principals for each of the supervisory units of the

[5] Each student should secure the following supplies: 25 Form 1 Activity Score Card; 25 Form 2 Activity Score Card; 25 Teaching Procedures; 25 Form 1 Improvement Chart, and 25 Form 2 Improvement Chart. These supplies may be obtained from Edward Brothers, Ann Arbor, Michigan.

system. Indicate the Elementary Supervising Principals, the Junior Supervising Principals, and the Senior Supervising Principals.

Problem 4: Determine the number of assistant supervising principals for each supervisory unit of the system. Indicate the Assistant Elementary Supervising Principals, the Assistant Junior Supervising Principals, and the Assistant Senior Supervising Principals.

Problem 5: Determine the number of office secretaries needed for the school system. Formulate a schedule indicating the work of the office secretary in the various supervisory units.

Problem 6: Select in consultation with the superintendent of the system one supervisory unit for the purpose of doing supervisory guidance. The student should assume the rôle of supervising principal over this unit.

Problem 7: Work out a supervisory time schedule for the supervisory unit selected in Problem 6. Indicate the amount of time to be devoted to supervisory guidance, office, and other duties.

Problem 8: Work out a classroom visitation schedule for the teachers of the supervisory unit selected in Problem 6. Indicate the class periods and the school enterprises.

Problem 9: Select a room in consultation with the principal of the supervisory unit selected in Problem 6 suitable for the Teacher Conference. Equip this room with suitable furniture and library.

Problem 10: Determine in consultation with the teachers of the supervisory unit selected in Problem 6 a suitable teacher conference period. The conference should come daily and should follow the classroom work.

Problem 11: Explain to the teachers of this unit the two plans for the improvement of teacher guidance. Point out in this connection the desirability of beginning with the first plan.

Problem 12: (Plan I, see Topic 9.) Measure with Form 1 of the Conduct Scale (i) directly and (ii) indirectly difficulties of the teachers of this unit in terms of children's drives and responses regardless of the traits of purposeful activity. Compute the Drive

and Response Indexes for each child and the teacher. Assist the teachers in listing the teaching difficulties revealed.

Problem 13: Assist the teachers of this unit at the Teacher Conference in constructing teaching procedures in terms of children's drives and responses regardless of the traits of purposeful activity. The teaching procedures should be designed to overcome the teaching difficulties revealed in Problem 12.

Problem 14: Assist the teachers of this unit in using the teaching procedures constructed in terms of children's drives and responses regardless of the traits of purposeful activity. The teaching procedures used should be those constructed in Problem 13.

Problem 15: Assist the teachers of this unit at the Teacher Conference in measuring with Form 1 of the Improvement Chart the improvement of teaching in terms of children's drives and responses regardless of the traits of purposeful activity. Use the Drive and Response Indexes obtained in Problem 14 in this connection.

Problem 16: (Plan II, see Topic 9.) Measure with Form 2 of the Conduct Scale (i) directly and (ii) indirectly difficulties of the teachers of this unit in terms of the traits of purposeful activity. Compute the Drive and Response Indexes for each child and the teacher. Assist the teachers in listing teaching difficulties revealed. Follow the steps outlined in Chapters XII and XIII.

Problem 17: Assist the teachers of this unit at the Teacher Conference in constructing a teaching procedure in terms of the traits of purposeful activity. The procedure should be designed to overcome the difficulties revealed in Problem 16. Follow the steps outlined in Chapter XV.

Problem 18: Assist the teachers of this unit in using the teaching procedures constructed in terms of the traits of purposeful activity. The teaching procedures constructed in Problem 17 should be used in this connection. Follow the steps outlined in Chapter XVI.

Problem 19: Assist the teachers of this unit at the Teacher Conference in measuring with Form 2 of the Im-

provement Chart the improvements of teaching in terms of the traits of purposeful activity. Use the Drive and Response Indexes obtained in Problem 18. Follow the steps outlined in Chapter XVII.

Problem 20: Assist the teachers of this unit in measuring classroom management difficulties and improvements. Follow the steps outlined in Chapter XXI.

APPENDIX

APPENDIX

STENOGRAPHIC REPORTS OF SCHOOL ENTERPRISES

The following stenographic reports of school enterprises are included for the purpose of enabling students to practice Indirect Measurement of Teaching. These reports represent both project and conventional teaching. They should be used by students in connection with a study of Indirect Measurement of Teaching set forth in Chapter XIV.

STENOGRAPHIC REPORT 1: A FIFTH GRADE EXCURSION PROJECT

How Mr. Smith Makes Polar Bars

1. *Purposing.*

"Oh, I'm so hot! I never saw such a day before," sighed Bobby as he sank into his seat. "Why, I nearly melted just walking to school."

"I don't think it is very hot," said Alice. "Maybe it's because my mamma had ice cream for lunch today. Mother makes the best ice cream I ever ate."

"Why, she doesn't!" exclaimed Frank loudly. "Mr. Smith makes better ice cream in his factory than anyone could make at home. He puts nuts and strawberries and things in his."

"Mama makes it with nuts in it too," indignantly retorted Alice. "We had some for a party one time, didn't we, Ruth? Do you remember? You know you were there, and we all had two dishes apiece."

"Yes, I remember," said Ruth. "That was good ice cream and I was sorry when I had eaten all of mine."

"Oh, yes, old pig," exclaimed Frank. "Girls are always acting so nice and I'll bet they could eat just as much as a boy could if they had it."

"The reason why girls like homemade ice cream," proclaimed Harold, "is because it doesn't cost anything. They never do have any money like boys do."

"Oh, smarty," cried Ruth excitedly. "I'll bet I have more money than you. Your papa doesn't work in a bank and have lots of money like mine. The reason why I like homemade ice cream the best is because it is more sanitary."

"What's sanitary?" demanded Frank.

"Why," explained Ruth, "It's—ah—"

"Oh, ho-ho!" laughed Harold loudly. "She doesn't even know what 'sanitary' means. I do. It's having things all clean and not having dirt, isn't it?"

"Why, Mr. Smith has a clean factory," declared Frank. "Everything is just as shiny and nice down there. He has the floor made of cement, even, so he can wash it by pouring water on it."

"Well, I never have been inside your old factory," declared Alice, "but I'll bet Mr. Smith doesn't scald out his freezer and keep it clean and nice like my mamma does."

"Of course he does," indignantly cried Frank. "He couldn't get the ice cream to freeze if he didn't do that."

"Why silly, that doesn't have anything to do with freezing the ice cream," scoffed Alice. "I've seen people make ice cream without scalding the freezer lots of times and they get it to freeze all right. I think that the thing which makes the ice cream freeze is the little pieces of ice, because it gets harder, the smaller the pieces get."

"Aw, that just shows how much girls know," proclaimed Harold. "Whoever heard of people using little tiny pieces of ice to freeze ice cream? That is not what makes ice cream get hard. The salt does that."

"I don't like salty ice cream," piped Marjorie, who had been listening to the others. "I ate some once, over at Mrs. Brown's and it wasn't a bit good. My mother doesn't put salt in hers."

"Why, no one ever puts salt into ice cream, baby," explained Frank. "They put the salt on the ice, outside of the can which holds the ice cream and it can't get inside."

"Just the same, maintained Marjorie, "Mrs. Brown's ice cream *did* taste salty. I guess she didn't just put it in to taste that way. I'll bet you don't know how to make it and that they do put some inside, too."

"Of course they do," agreed Alice. "I've helped Mother just lots of times, and she *always* puts salt in. She said she didn't have to do that, but that she liked the flavor better when she did."

"Well, I never would put salt in ice cream to flavor it," declared Harold. "I think vanilla is lots better than salt, and strawberry—oh, boy! I wish I had some now."

"I like pineapple better than strawberry," said Alice. "Mother makes pineapple better than strawberry sherbert. It is surely good."

"Oh, I don't like sherbert," scoffed Bobby, who had just rejoined the group. "Ice cream is lots nicer and when we have parties and things, we have brick ice cream—pink and white. Uh-huh-uh-huh."

"Well, but you can only have the kind you can buy," said Ruth. "When you make it, you can fix it in fancy shapes and colors and make it nicer."

Helen, who had just joined the group, chimed in, "Yes but you can't make polar bars at home. I just love 'em. My father brought some home to me last night."

"What are polar bars?" questioned Marjorie. "I don't believe I ever tasted them. Are they ice cream?"

"Yes," said Helen. "They are ice cream, but they are shaped in little squares and have chocolate on the outside of them. Sometimes they are pink, but most of them are white."

"I've eaten lots of polar bars," boasted Frank. "They cost ten cents apiece, though, and so I usually buy an ice cream cone."

"But how do you get the chocolate on the outside?" questioned Alice. "I've eaten them, but I've always wondered about that. When mother and I make candy, we dip the candy into melted chocolate and it gets hard around it, but they couldn't dip ice cream into melted chocolate, because it would melt the ice cream."

"Oh, I guess they make the chocolate shell and put the ice cream into it," Bobbie said. "The way they do ice cream cones, you know."

"But there isn't any hole in it," objected Helen. "I don't think that that is the way they do it."

"Miss Green, do you know how they make polar bars?" inquired Bobby. "They don't make chocolate shells and then fill them up like they do ice cream cones, do they?"

"Why children, I'll have to admit I don't know," smiled Miss Green.

"Maybe, Mr. Smith would show us how he makes them," remarked Alice. "I'd sure like to go to his factory sometime."

"You bet," shouted Frank. "That would be great fun. I've never seen how they were made either. Of course he just makes the inside like any other ice cream, so I guess if we find out about that it will be just the same."

"I want to find out if he puts salt in his ice cream," said Marjorie. "I don't believe Bobbie knows very much about it."

"And I want to see how he makes it pink—"

"And what kind of fruit he puts in it—and—"

"Oh, yes, let's go," chimed in all the children. "Let's go now."

"No," said Miss Green. "We cannot go now. We must see Mr. Smith first and ask him if we can visit his factory. Then if he says it is all right, we can go. Will one of you children ask Mr. Smith if we may visit him?"

"I will," promised Bobbie. "He lives just a little ways from me. I'll ask him if we can go tomorrow."

"All right," assented Miss Green. "Don't forget, Bobbie."

"You bet, I won't," grinned Bobby sweetly.

2. *Planning.*

The next conference the children were all assembled before Bobby arrived. He rushed in soon after, however, out of breath, but with a grin so broad that the children all knew before he spoke what his report would be.

"We can go! We can go!" he shouted as soon as he got his breath. "Mr. Smith said we could come this afternoon at 2:30, as he would make ice cream then. I had to go on an errand for mother before I could go to see Mr. Smith. That's why I had to hurry so."

"Goody, goody," squealed Marjorie. "I'm so glad we can go."

"Let's write down what we want to find out," suggested Helen. "So we won't forget anything."

"That's a good idea," approved Miss Green. "Who will write on the board for us?"

The children all wanted to, but Alice was finally agreed upon as the children thought she could write so well.

"Well," said Miss Green, "you children may tell Alice the things you want her to write and she will put them down."

"I want to find out about that salt," started Marjorie.

"And I want to know what kinds of nuts he puts in," said Jane.

"We want to see if he makes the ice cream in plain freezers the way we do," said Jack.

"Why of course he does," jeered Raymond. "Whoever heard of anybody making ice cream in anything but a freezer?"

"Well," countered Jack, "they would have to have a big one, to make as much as they do. I suppose though," he added, "that they could use a lot of little ones."

"No, they couldn't do that," objected Frank. "It would take too many men to turn them and they use electricity in most places, I think."

"We'll find out anyway," said Jack.

"Let's not forget to see about how he colors it," added Ruth.

"And we mustn't forget to see how he gets the chocolate on the polar bars," added Marjorie. "I can hardly wait to see that."

"Well," inquired Alice, "are these all the questions you can think of? Shall I read them to you?"

The children said that they should like to have the questions read over, so Alice proceeded as follows:

Is salt used in the ice cream or on the ice?
What kinds of nuts are used in the ice cream?
What kind of freezer is used in making the ice cream?
How is ice cream colored?
What kind of fruit is put in the ice cream?
How is the chocolate put on the polar bars?

"Oh, oh," exclaimed Jack, "we forgot to put down a question about the ice. I want to know about that."

So Alice wrote: What size of pieces of ice should be used?

Then the children decided that their plan was complete and they were ready for their trip.

Miss Green told them that they could start right away, as it was almost two o'clock and it would take them about half an hour to walk to the factory.

3. *Executing.*

When the children reached the factory Mr. Smith received them with a smile, and the announcement that he was just ready to start making his ice cream. They all went back to the rear part of the factory where there were many queer looking machines and many large cans standing around.

Mr. Smith first explained the pasteurizing process.

"What's a pasteurizer?" demanded Bobby. "I didn't know you used anything like that to make ice cream."

"Yes," replied Mr. Smith. "We use this to purify the milk and to kill any disease germs that may be in the milk."

"Oh," exclaimed Ruth. "I know what germs are. They are little tiny things that you look at under a magnifying glass."

"Yes, and they make you sick when they get inside your body," said Alice. "Once I looked at some in a thing called a microscope; I wish we could get some to look at in school some time. Couldn't we, Miss Green?"

"Maybe so, if the rest of the class wanted to," replied Miss Green. She suggested that they should watch Mr. Smith, now, while he was pasteurizing the milk.

The other children, meanwhile, had been absorbed in watching Mr. Smith.

"I didn't know you had to heat the milk you used," stated Ray. "Do you always do that?"

"Oh, yes," replied Mr. Smith. "I always do that, and I heat the sugar and flavoring too, you see. I'll add them now to warm milk. Then after the milk has been in the pasteurizer for about fifty minutes, I take it out and cool it, then pour it in the freezer."

"But, Mr. Smith," interrupted Paul, "do you use cream or milk in your ice cream? It always tastes so good that I thought you must use cream."

"Well," admitted Mr. Smith, "we do use cream, but sometimes we mix milk with it. The milk we use must have 10 per cent of fat in it, however, or we cannot buy it at all. That is the law in this state."

"May we see your freezer?" inquired Frank. "We wondered whether you would use a big one or a lot of little ones."

"Certainly," agreed Mr. Smith, "I was just going to show it to you when you asked me. It is run by electricity and holds ten gallons of ice cream."

"Do you pour hot water in the ice cream cans to clean them out?" asked Marjorie. "One of the boys said you couldn't get ice cream to freeze if you didn't do that. You could, couldn't you?"

Mr. Smith laughed heartily. "Why, of course, that only makes it cleaner and kills germs which might be in the can."

"See, smarty?" triumphed Marjorie. "We told you that boys didn't know anything about it."

"Just the same, I do know that they don't put salt in ice cream, do they Mr. Smith?" retorted Bobbie.

"No," answered Mr. Smith. "We do use salt, but not in the ice cream. We sometimes put salt on the ice when we pack it. We only freeze the cream a little, about as thick as cooked oatmeal, I imagine, and then put it in the refrigerator to finish freezing by standing."

Mr. Smith explained to them that they did not use salt in freezing ice cream, but that they produced a low temperature by making a cold gas.

"When we get this one freezer full," Mr. Smith continued, "we empty it into a can and freeze another ten gallons. We always keep our ice cream at least three days in the refrigerator before it is ready to sell."

"Why do you keep it so long?" Jane wanted to know. "I always thought things like that are better fresh."

"No," said Mr. Smith, "we don't think so. You see, if we keep this three days, the flavor mixes better with the cream and we think the ice cream is smoother and better when it is treated that way. We could keep ice cream for two weeks in our refrigerator. Wouldn't you like to go through it?"

The children assented eagerly, but surprisedly, as most of them had never thought of going into a refrigerator before.

"I think this is funny," whispered Alice to Helen.

Helen nodded, "So do I; I never heard of a refrigerator like this."

Just then they entered the small room and Mr. Smith closed the door to keep the air out.

"O-o-o-o-o," squealed Marjorie. "Isn't it cold in here? My, I wish I had worn my coat."

"Why, it's just like standing on ice," echoed Helen. "I don't think ice could be colder than this."

"I believe it's colder than ice," shivered Jack. "It's not as cold as this in winter."

Mr. Smith smiled at the children. "Yes," he said, "this is colder than ice. We keep this place below the freezing point for ice most of the time. We'd better go out now," he added, as he noticed the children all shivering.

"Mr. Smith," asked Alice, when they were again on the warm outside, "do you make polar bars?" We want to know how they are made."

"Yes," said Mr. Smith. "I make them, and I'm making them today. I'll show you how we make polar bars. Just come over here, please."

"Oh, please do," cried all the children together.

"This little box," he explained, "is one of the boxes I use to

make brick ice cream. As I explained before, when the cream is partly frozen we take it out of the freezer and finish freezing it by standing it in the refrigerator. This is done the same way, except that when we have brick ice cream of two or three colors we pour in the different colors, one on top of the other, and let them get hard together."

"Oh yes," smiled Jane, "I'm glad you told us that. I wondered about that."

"When we take brick ice cream out of the molds," proceeded Mr. Smith, "we dip the molds into hot water (demonstrating), so that the bricks will come out into the shape you see them."

"What are molds?" interrupted Harold. "Mother says she has mold on her canned fruit, but I know it isn't that kind."

"I know what molds are," boasted Helen. "Mother and I put jelly into them. It's funny little fancy shaped pans that you use to make the jelly pretty when you want to take it out."

"That's right," nodded Mr. Smith, "and that is the same reason why we use molds for ice cream."

"But," interrupted Raymond, "when you put the mold into hot water, the ice cream melts, doesn't it?"

"No," said Mr. Smith, "we just dip the mold in for a second and then take it out so the ice cream won't melt (demonstrating the process). It isn't in the hot water long enough for it to melt. After the ice cream is out of the mold, it is laid on a block and a special knife is used to cut it into the little squares we use in polar bars (demonstrating the process). This knife cuts a whole brick at one time."

"How many polar bars do you make out of one brick?" Jane wanted to know.

"Oh, we make about twelve," replied Mr. Smith. "Then, when the ice cream is cut, we stick little wires which have hooks on the other end into the ice cream (demonstrating the process).

"But, Mr. Smith, how do you get the chocolate on the ice cream," broke in Helen. "That's what I can't understand."

"That's what I was about to explain," replied Mr. Smith.

"Oh! I beg your pardon, Mr. Smith," apologized Helen.

"The hook end of the little wire in the cream," continued Mr. Smith, "is then hung on this long sloping wire. The cream, you see, slides down and is caught by one of the girls we call "Dippers" who dips the cream bar into the melted chocolate to make the chocolate coating."

"Won't you show us, Mr. Smith, how that's done?" implored Jane. "I'd like to see the girl dip it in the hot chocolate."

"Sure," replied Mr. Smith. "Just watch me now."

"Say, Mr. Smith, why doesn't the hot chocolate melt the ice cream?" queried Helen. "I just cannot understand why it doesn't."

"Well," explained Mr. Smith, "the ice cream is so cold that the chocolate hardens the minute it hits the ice cream."

"Oh, I see," remarked Helen. "Mamma will like to know that."

"The girls hang the little hooks again on the wire and the polar bar slides down to be wrapped," continued Mr. Smtih. "See the girl, she's doing that now."

"Oh, let's watch the girl wrap one," suggested Marjorie. "Just see that pretty silver paper."

"Come on," beckoned Mr. Smith. "Miss Jones will show you how to wrap a polar bar."

"But, Mr. Smith, why do you call them polar bars," inquired Jake. "Why don't you call them chocolate bars?"

"Shucks, I know that," interrupted Mary. "Mamma told me that."

"Well, what is it, smarty?" retorted Jake. "Let's have it."

"My mamma said polar means cold," exclaimed Mary. "I know she's right, too."

"Sure, she is," broke in Mr. Smith. "They are called polar bars because they are as cold as the North Pole."

"What do you do with the polar bars when they are wrapped," interrupted Louise.

"They're put into the long ice cream cans in the refrigerator, until we are ready to sell them. Just come here, I'll show you."

"Oh, yes," exclaimed John. "They sure look good."

"And they are," broke in Mr. Smith. "I'm going to give you all one."

"Thanks," came a chorus of voices.

"Mr. Smith, don't you think we could make some polar bars at school," queried Helen. "We've made lollypops."

"Sure," replied Mr. Smith. "I'll give you enough materials to make some."

"Gee, won't that be fun?" enthused John. "We'll do that tomorrow, see."

4. *Criticizing.*

"Wish I had another polar bar," cried Bobby the next day as they assembled again.

"So do I," chimed Frank. "I'd like to be in that refrigerator a while, and get cooled off too. I'm so hot."

"I can't see how he got the place so cold without any ice," said Alice. "I've been wondering about that."

"Well," said Frank. "He gets it cold the same way they get the water cold at the factory where they make ice."

"Let's go see how they make ice some day," suggested Raymond. "Maybe we could go tomorrow."

"But we didn't find out how they put nuts and fruits in," pointed out Helen.

"No, nor what kind he puts in," added Alice.

"And we forgot about the colors and the kind of flavoring used," chimed in Ruth.

"Anyway, I'm glad I went, I found out a lot," said Jack.

The children agreed that they had all enjoyed the trip very much even though they had not followed their plan very well.

5. *Leading on projects.*

1. How Mr. Jones makes ice.
2. How to make polar bars at school.

STENOGRAPHIC REPORT 2: A THIRD GRADE CONSTRUCTION PROJECT

How Billy Made His Wagon

1. *Purposing.*

"Gee, I wish I had a wagon like Carl's," remarked Billy at one of the Hand periods. "I'd like to have one to play with."

"Why don't you make one?" asked Carl. "I made mine."

"Shucks, I can't make the wheels," responded Billy. "I can't saw a circle."

"Oh, that's easy," added Carl. "Miss Jones will show you how."

"I'll see," remarked Billy. "I'd sure like to have one."

"Sure, I'll help you," replied Miss Jones to Billy's inquiry. "Can you get the materials?"

"I think so," answered Billy. "Mamma has a pine box at home that I'm sure she'll give me."

"All right, bring your material tomorrow, and I'll help you plan your wagon," added Miss Jones. "I think the pine box will do."

"I'll get it," remarked Billy rather joyfully. "Carl'll let me have his wagon to make mine by, I'm sure."

"Be thinking over how you'll want to make your wagon,"

advised Miss Jones. "We'll discuss the materials, tools, and processes in making the wagon at the next conference."

"I'll find out all I can from Carl," added Billy as the gong sounded.

2. Planning.

"Billy, let's discuss the materials needed in making your wagon first, before you begin your work," suggested Miss Jones at the next meeting.

"I'd like to do so," agreed Billy. "I ruined my sled because I couldn't saw straight."

"Do you have your materials?" inquired Miss Jones. "Seems to me we ought to consider them first."

"There's my box my mamma gave me," replied Billy. "Do I need any more?" He thought he could make the wagon box and wheels from the box.

"What about the tongue?" remarked Miss Jones. "I think your box is all right."

"Oh, I'd forgotten that," answered Billy, rather puzzled. "Carl made his out of heavy wire. I can get some at home just like it."

"I'm sure the wire will do," suggested Miss Jones. "I can think of nothing better."

"I'll make a loop in the end of the wire to pull the wagon by," explained Billy. "I can fasten the other end to the front axle."

"That's a good idea, Billy," approved Miss Jones. "I hadn't thought of the loop in the end."

"Carl's hasn't a loop, but I saw one in the store with one," continued Billy. "I want the loop just big enough for my hand."

"How big are you going to make your wagon, Billy?" inquired Miss Jones at this point. "You'll have to know in order to find out the length of the different pieces of lumber, won't you?"

"Just the same size as Carl's," replied Billy rather quickly. "I'd like to have the wagon box and wheels just the same size."

"Then you can measure Carl's wagon to find out how to cut your lumber," suggested Miss Jones.

"Sure, I hadn't thought of that," agreed Billy. "I'd had the lumber sawed if I'd known how long to cut it. Oh, I don't know how to saw the wheels either."

"The wheels are sawed out with the coping saw," explained

Miss Jones. She pointed out that the wheels are first marked off with a pair of compasses.

"But how do you mark them off?" persisted Billy. "I don't see yet."

Miss Jones explained that the size of the wheel is determined by placing one point of the compasses on the spindle of the wheel and moving the other point out to the outer edge of the wheel.

"Oh, I think I know now," interrupted Billy. "I'll get the compasses and try." Billy got a pair of compasses, placed one point on the axle of Carl's wagon, and moved the other point out to the edge of the wheel as Miss Jones had explained. He then set the compasses on a plank and marked off a wheel.

"That's it," approved Miss Jones. "You know now how to make a wagon wheel, don't you?"

"Well, I think so," responded Billy proudly. "I'll bore a little hole in the center of the wheel for the nail. That will keep it from bursting the wheel," he explained.

"That's a good idea, Billy," agreed Miss Jones. "Don't you think it would be well to make a list of your lumber specifications now?"

"What do you mean, Miss Jones?" said Billy, rather vexed. "I don't know what you mean by 'specifications' in lumber."

"Oh, I mean to find out the length and width of the different pieces of lumber needed in making your wagon," replied Miss Jones. "I think the ruler might be used in doing this."

"But, I don't know how to use the ruler," persisted Billy. "I didn't use it when I made my sled. I'd like to know how to use it though."

"Bring me the ruler, Billy," remarked Miss Jones. "I'll show you how to use it."

"All right," said Billy, with a smile of satisfaction. "I've always wanted to use the ruler."

Miss Jones explained the ruler at this point. She pointed out the "inch" marks on the ruler and explained that twelve inches equal one foot.

"Let me try it," insisted Billy. "I think I know how now."

"Just a minute, Billy," replied Miss Jones. "The first inch mark is numbered with the figure '1,' the second with figure '2,' and so on."

"Oh, I see," added Billy. "The figure '3' on the ruler means that the piece of lumber would be three inches long, would it?"

"You're right, Billy," approved Miss Jones. "Why not measure Carl's wagon?"

"Shucks, I forgot, but how do you measure the wheels?" asked Billy rather disgustedly. "They're round."

"Oh, by measuring the diameter of the wheels," replied Miss Jones.

"What's the diameter?" frowned Billy. "I never heard of that before, Miss Jones."

Miss Jones explained that a straight line across the middle of the wheel is called the "diameter" of the wheel. She illustrated this point by measuring one of the wheels.

"I know now," remarked Billy. "I'll measure the parts now." Billy proceeded to measure Carl's wagon and found the specifications to be as follows:

Dimensions of Carl's Wagon

2—Sides	.....	6 in. x 14 in.
2—Ends	.....	6 in. x 8 in.
1—Bottom	.....	8 in. x 12 in.
2—Axles	.....	2 in. x 10 in.
4—Wheels	.....	6 in. x 6 in.
1—Tongue	.....	20 in. long

After calculating the lumber specifications, Billy remarked he would need some paint.

"What color do you like?" inquired Miss Jones.

"Red with yellow stripes," he replied. "Carl painted his wagon a solid red, but I want yellow stripes on my wagon bed."

"That'll be pretty, indeed," remarked Miss Jones. "How much will you need? There's some red paint in the cabinet."

"Carl said he used a half-pint," answered Billy. "Papa told me it wouldn't take much to make the stripes."

"There's a can of red paint in the cabinet you may use, Billy," added Miss Jones. "But where will you get your yellow paint?"

"Oh, I know, papa has some at home he used in painting our wagon," responded Billy rather enthused. "About how much will it take, Miss Jones?"

"I hardly know, but I judge about two tablespoonfuls," replied Miss Jones. "Well, I'm sure that will be sufficient."

"I'll need some nails, too, Miss Jones," added Billy. "Carl used four-penny nails in making his wagon box."

"What did he use to fasten the wheels to the axles?" queried Miss Jones.

"I'll see," replied Billy. Billy found that Carl used number eight nails to fasten the wheels to the axles.

Miss Jones explained that there are both kinds of nails in the school cabinet. "All you need to get, Billy, is the yellow paint."

Billy added the following materials to his lumber specifications:

½ pint of red paint
2 tablespoonfuls of yellow paint
Four-penny rails (several)
Four No. 8 nails

"What tools will I need?" inquired Billy at this point. He thought he would need a saw and a hammer. "Oh, yes, I'll need a ruler to measure the lumber."

"You'll need a square to mark your lumber, won't you?" suggested Miss Jones.

"Why, sure," he replied. "I'll need a paint brush too."

"How'll you smooth your lumber?" asked Miss Jones. She thought it wouldn't look pretty unless it had a smooth finish.

"Shucks, I'll need a plane and some sandpaper," said Billy. "I saw Carl use the plane and sandpaper in making his book-rack."

"That's right, Billy. You will need a small plane and a piece of sandpaper. Is that all?"

"Sure, not, I'll need a pair of compasses and a coping saw to make the wheels," added Billy. "I'll need a workbench, too." Billy listed the following tools needed in making his wagon.

1—pair of compasses	1—coping saw
1—small smoothing plane	1—piece of sandpaper
1—nail hammer	1—handsaw
1—square	1—paint brush
1—ruler	1—workbench

Miss Jones wanted to know, at this point, if they shouldn't discuss the processes involved in making the wagon. "Do you know how to plane, Billy?"

"Oh, sawing, nailing, and measuring are some of the things I'll have to do," interrupted Billy. "I know how to do these. Do I have to do anything else?"

"Sandpapering, planing, and painting are other processes you'll need," suggested Miss Jones.

"Why, sure, but I don't know how to do either," remarked Billy, rather perplexed. "Won't you show me?"

"I'll be glad to," responded Miss Jones. "I'm sure you ought

to learn how to do these processes before beginning work on your wagon."

"I think so too," agreed Billy. "I ruined my sled because I couldn't saw straight."

"Which do you want to do first, Billy?" asked Miss Jones.

"I'd like to learn how to paint first," suggested Billy. "I'll paint this plank if you'll show me how."

"All right, Billy," agreed Miss Jones. "Get your brush and paint." She explained, at this point, that two coats of paint should be applied—the first one to give the wood a faint color, the second one to give the wood a deep red color.

"Do I put both on at the same time?" questioned Billy. "I don't think papa does."

"No," replied Miss Jones. She explained the first coat was applied and allowed to dry before the second coat is put on.

"I'll paint two pieces then," remarked Billy. "One I'll put a light coat on, and the other one a heavy coat."

"That's a good idea," approved Miss Jones. "Go ahead, and I'll help you." Billy practiced painting until he was sure he knew the process.

In a similar manner Miss Jones explained the sandpapering and planing processes, and Billy practiced each until he acquired sufficient skill to perform each process effectively.

"What part of the wagon do I make first?" inquired Billy at this point. "I'd like to make the wheels first."

"It doesn't make any difference," replied Miss Jones. "It'll be all right for you to make the wheels first." She thought all the parts of the wagon should be cut out first according to the dimensions before assembling.

"Gee, I know now," interjected Billy. "I'll mark off all the pieces, and then saw them. But what should I do next?"

"Plane and sandpaper the pieces," suggested Miss Jones.

"Shucks, I should have known that," remarked Billy, with an air of disgust. "I'll plane the edges first, and then sandpaper the pieces."

"Do I paint the parts before assembling?" queried Billy. "Papa painted our wagon box the last thing."

"No, Billy," replied Miss Jones. "It's always better to do the painting the last thing as your papa does."

"I thought so," agreed Billy. "I'd like to know more about the assembling. I don't understand."

"Oh, Billy, assembling means putting the parts together," explained Miss Jones. "Some parts have to be put together before others can be added."

"I see now," remarked Billy. "I'll have to make the wagon box before I can attach the wheels to the axles, won't I?"

"You're right, Billy," agreed Miss Jones. She explained that the parts of the wagon box should be assembled first, and then the axles.

"Well, when do I fasten the wheels to the axles?" queried Billy. "I'd say when the axles are fastened to the wagon box, am I right?"

"Do I nail the sides to the ends or to the bottom first?" questioned Billy. He thought it would be easier to nail the sides to the bottom and then insert the ends.

"I think so too," said Miss Jones. "But when will you put your tongue on?"

"I'd forgotten it," replied Billy. "I'll put it on when I fasten the axles to the wagon box."

"Then you'll paint it," suggested Miss Jones.

"Sure, Miss Jones," came Billy's answer. "I'll have a wagon then. I'll have my plan in my folder so I can begin work by the next conference," he continued.

"All right, Billy," agreed Miss Jones. "I'll look over your plan at the next meeting."

Billy worked out the following plan and presented it to Miss Jones for her approval.

Plan for Making My Wagon

I. Lumber specifications:

2—6 in. x 14 in. (sides)
2—6 in. x 8 in. (ends)
2—2 in. x 10 in. (axles)
1—8 in. x 12 in. (bottom)
4—6 in. x 6 in. (wheels)
1—wire—20 in. (tongue)

II. Process in Making Wagon:

1. Mark off lumber per specifications.
2. Saw lumber as marked off.
3. Plane and sandpaper parts.
4. Nail sides to bottom of box first, and then insert ends.
5. Nail axles to bottom of wagon box.
6. Fasten tongue to front axle.
7. Attach wheels to the axles.
8. Apply light coat of paint and let dry.

9. Apply heavy coat of paint and let dry.
10. Put two narrow yellow stripes around sides of wagon box—one at the top, and the other at the bottom.

3. *Executing.*

"Your plan is good, Billy," remarked Miss Jones in going over it with him at the next conference period. "If you'll follow it carefully, you'll have no trouble, I'm sure."

"I'll try to, Miss Jones," agreed Billy. "I'm ready to begin work."

"All right, Billy," continued Miss Jones. "If you need any help come to me and I'll help you."

"I don't think I'll need any," responded Billy smilingly as he hurried to his workbench. "I know every step."

Billy proceeded first to arrange his tools and materials in orderly fashion on his workbench. He then dismantled his box, and marked off the pieces in accordance with his plan. The pieces for the wagon box and axles were first sawed.

"Whew," he was heard to say. "I wish the wheels were sawed too." He proceeded, and "crack" went the coping saw blade. He examined his saw and soon found the pinching was due to his failure to saw squarely across the wood. He hesitated a moment and then decided to consult Miss Jones.

"Miss Jones, I broke my coping saw," he said painfully.

"How, Billy?" she inquired.

"I broke it sawing my wheels," he answered rather disgustedly. "I forgot to saw straight again. I'll bet I'll not break the next one."

"All right, Billy," remarked Miss Jones. "Get another blade, and try it again."

Billy proceeded to put another blade in his saw, and resumed his work. Soon he was heard to say, "I'll see if I'm sawing straight this time." He removed his saw from the lumber and placed the square over the edge of the wheel to see if he was "sawing straight" this time. He had no further trouble.

"Shucks, it won't go," he was heard to say while attempting to place the pieces of lumber. He tried to solve the difficulty by adjusting the plane blade but with no avail. "I'll have to see Miss Jones again, shucks on it." He explained his difficulty.

"Were you planing with or against the grain in the lumber?" asked Miss Jones.

"What do you mean, Miss Jones?" he responded.

Miss Jones explained what she meant by "grain" in the lum-

ber. She pointed out if he planed against the grain it would choke the plane.

"I planed this way," explained Billy. "That's against the grain I'll bet."

"Sure," agreed Miss Jones. "You should always plane with the grain in the lumber."

"I know now," interjected Billy. "I'll try it again."

Billy succeeded now in giving his lumber a smooth finish with the plane and sandpaper.

He next assembled the parts of the wagon bed in accordance with his plan. The axles were then attached to the bottom of the wagon box. He consulted his plan again, and was heard to remark to himself with a show of enthusiasm:

"Now, for my wheels." The wheels were successfully fastened to the axles. He pushed the wagon across his workbench several times to see if the wheels rolled properly. Miss Jones stepped up at this point.

"See, Miss Jones, it's a dandy," he remarked with a big smile on his face. "I'd like to make brother Bobbie a cart. He wants one."

"All right, Billy, when you finish your wagon," agreed Miss Jones.

"What do you think of my wagon, Miss Jones?" interrupted Billy, moving it backward and forward on his workbench.

"It's just fine," responded Miss Jones quickly upon looking it over carefully.

"Now, I must put the tongue on," added Billy. "Then I'll paint it red."

"Good," said Miss Jones. "I must help Neva with her doll dress now. If you need me, come, and I'll help you."

"All right, Miss Jones." Billy proceeded to make the wagon tongue. He bent a loop in the end of the wire and fastened the other end to the front axle as he had planned.

"Gee, now for the paint," he enthused. He applied one light coat, and placed the wagon in the window to dry. The next day the second coat was applied. Carl stopped up at this point and examined Billy's wagon closely.

"It's finished?" queried Carl. "Oh, the red paint is so pretty."

"No, sir," replied Billy. I'm going to put two yellow stripes around the wagon box."

"Yes, and that will ruin it," deplored Carl. "How'll you get the lines straight?"

"Oh, that's easy," explained Billy. "You see, I'll make a straight mark around the wagon bed with the ruler."

"Well, I'd leave them off," suggested Carl. "You'll ruin the red paint, now see if you don't."

"Shucks no," persisted Billy. "Papa's wagon has yellow stripes and they're pretty too. Wait till you see mine."

"All right," agreed Carl. "When will you have it finished?"

"Tomorrow," answered Billy. "It'll have the yellow stripes."

"I'll look at it then," added Carl.

Billy put the two yellow stripes around his wagon box as planned. He consulted his plan again and then placed the tools in the cabinet.

4. *Criticizing.*

"I've finished my wagon now, Miss Jones," remarked Billy at the next conference. "Say, but it's a dandy, believe me."

"Where is it?" queried Miss Jones. "I'd like to see it."

"I'll get it," interrupted Billy. Billy gets his wagon.

"Oh, it's so pretty," interjected Miss Jones. "Those lovely yellow stripes! Don't they shine in the red?"

"Watch me pull it, Miss Jones," proudly interrupted Billy. "Where's Carl? I like for him to see the yellow stripes too."

"I'm coming," piped up Carl. "I'll be there in a minute."

"Doesn't it pull a little sideways?" queried Miss Jones. "Try it again, Billy."

"I believe so," added Billy. "Let me see."

"Say, boy, those stripes are pretty," exclaimed Carl. "Let me pull it, Billy."

"All right," agreed Billy. "I thought you'd think the stripes were pretty. Miss Jones thinks so too."

"It pulls sideways," informed Carl. "See it won't follow this line."

"What makes it, Carl?" questioned Billy. "It seems to be in the tongue."

"I think so too," agreed Carl. "It's not in the center, is it?"

"I'll see," broke in Billy. He took the ruler and found that he had made a mistake in measuring the center of the axle.

"It's not in the center," repeated Carl.

"No," replied Billy. "It's a half-inch too far to the right on the axle. Wait, I'll move it over." He measured the center of the axle carefully and then fastened the tongue at this point.

"Now, let me try it," suggested Carl.

"All right," agreed Billy. "I don't see how I make those mistakes."

"Probably you're not careful enough in your work," remarked Miss Jones. "It always pays to measure twice to be sure."

"I'll next time," added Billy. "I sure find it pays to be careful."

"It pulls straight now," interrupted Carl. "I'm going to put a green stripe on my wagon."

"It's all right now," pronounced Miss Jones. "I think you have a fine wagon."

"So do I," added Carl. "I'll trade with you, Billy."

"Oh, no," rejoined Billy. "I'm going to keep it. Bobbie will want it, but I'm going to make him a cart."

"All right," agreed Miss Jones. "We'll discuss it tomorrow."

5. *Leading on Projects.*

Projects which grow out of this one were:

1. How to make Bobbie a cart.
2. How Carl painted a green stripe on his wagon.

STENOGRAPHIC REPORT 3: A FIRST GRADE STORY PROJECT

Jolly Old Saint Nicholas

1. *Purposing.*

"Oh, gee, I wish the snow would stay on until after Christmas," remarked Marguerite. "It would be so nice for Old Santa. Say, have you written to Santa Claus yet?" Maxine replied. "No, but mother taught me a pretty song to sing about him." "What is it?" inquired Marguerite, eagerly. "It's about 'Jolly Old Saint Nicholas,'" said Maxine. "I thought you said it was about Santa Claus," said George. "Well, isn't Santa Claus just the same as Saint Nicholas?" asked Maxine. George didn't know, so he asked Miss Moberly who said he was. Then Carl asked, "Why do they call him Saint Nicholas then?" "Because that's what little boys and girls in Russia call him," replied Miss Moberly.

"Well, Maxine, sing it," suggested Argoles, Joe and Kenneth who wanted to hear it too. "I know it," said Katie, "My sister taught it to me." "All right, shall we have the girls sing it?" asked Miss Moberly. Everyone agreed and Maxine and Katie rose and sang:

"Jolly old Saint Nicholas
Lean your ear this way,
Don't you tell a single soul
What I'm going to say,
Christmas Eve is coming soon,
Now you dear old man,
Whisper what You'll bring to me,
Tell me if you can——

"When the clock is striking twelve,
When I'm fast asleep,
Down the chimney broad and black
You'll be sure to creep,
All the stockings will be there
Hanging in a row,
Mine will be the shortest one,
You'll be sure to know.

"Johnny wants a choo-choo train,
Nellie wants a dolly,
Susie wants a story book,
She thinks dolls are folly,
As for me, dear, my little brain
Isn't very bright,
Choose for me, dear old Santa Claus,
What you think is right."

Marguerite liked the song very much and wanted to learn it. Argoles said, "I think it would be fun if we could learn the song and sing it at the Christmas tree." "Gee!" exclaimed Gerald. "wouldn't it be funny if we could act it out and have a big fat Santa Claus all dressed up." At this suggestion, the children clapped their hands and laughed. They all wanted to talk at once. "Let me be Santa Claus," shouted Kenneth. "Oh! you're not fat enough," objected Gerald. "But we can put some pillows inside his jacket," laughed Maxine.

"But, how could we act out a song?" queried Bob. "Why we can sing the parts instead of just saying them like they do in plays," said Edith.

The teacher asked, "Would you like to act out 'Jolly Old Saint Nicholas'?" They all held up their hands but George and Bob. Bob said that he thought it would be too hard to learn the parts. Then the teacher told them that she would help them to learn their parts. Gerald said that he didn't know there was anything to learn but the words of the song. "Well you have to know how to act while you sing them," said Marguerite.

"Let's learn the parts right now and practice," said Kenneth, and the gong sounded. Miss Moberly suggested that the children learn to sing the song before the next conference. They all agreed.

2. *Planning.*

"Let's practice our song today, Miss Moberly," said Argoles next day, very eagerly. "But we can't practice it until we know how," said Edith. "Who is going to be Santa Claus?" asked Marguerite. "Let's let Kenneth, he's the biggest," said Gerald. The children agreed that Kenneth should take part as Santa Claus.

"Oh, say! who is going to be Johnny, and Nellie and Susie?" asked Argoles. "I forgot all about those," said Gerald. "I'll be Johnny," quickly answered Carl. "And I'll take the part of Nellie, cause I want a dolly too," said Maxine . "I'll be Susie," said Katie. Then Edith asked "what about that little girl that wants Santa Claus to choose her present?" "I'll bet that was a little boy," remarked Argoles, "but anyway I think we should let the smallest one sing that." They measured and George was the smallest.

"Where are we going to have this play?" inquired Joe. "In the Auditorium, I think," said Katie. Miss Moberly said that Katie was right.

At this point in the discussion, Kenneth wanted to know where he was going to get a Santa Claus suit. He said that he had some boots just like a Santa Claus should have, but he needed a suit. Edith said that she believed that she could make one of red crepe paper and trim it with cotton. Kenneth said that he could bring the cotton and the boots next day. "You must have some whiskers," remarked Carl. "Well, I can make them out of cotton," answered Kenneth.

Marguerite said that she would help Edith with the suit. "Can you bring some pillows to stuff the suit with?" asked the teacher. "Sure," said Kenneth, "we've lots of pillows and I know Mother will let me have some."

"Say, I think we should have more people in the song," suggested Argoles. "I do too," said Katie. "I think we should have about eight of the best singers in the song." "I think so, too," added Maxine. Several others were nodding approval. The children sang and eight were chosen by the group. They were:

1. Maxine.
2. Marguerite.
3. Edith.
4. Katie.
5. George.
6. Carl.
7. Argoles.
8. Gerald.

"What are we going to do?" asked Carl rather puzzled. "Why we are going to sing to Santa Claus," said Katie en-

thusiastically. "Will we have to dress up?" asked Maxine. "No, I think your school dresses will be all right," replied Miss Moberly. "Where shall we stand when we sing?" asked Edith. "Oh, I think we should stand, so we can see Santa Claus," answered Katie. "Yes, but we should look at him when we sing," added Maxine. "But what do I say?" asked Kenneth, rather puzzled. "Why I think he should come in and speak to us and ask us what we want for Christmas," suggested Marjorie, one of the older girls. "That's a good idea," approved Miss Moberly. "Couldn't he have a notebook or something and pretend he's writing everything down?" asked Joe.

Carl inquired what Johnny had to say. "He sings the line 'Johnny wants a choo choo train,'" said Marjorie, "and I think he should go over close to Santa to sing it." "Then I sing 'Nellie wants a dolly,' don't I?" asked Maxine. "And Katie will sing 'Susie wants a story book.' The rest of us will sing all together, all the rest but George's part. He will have to sing the last two lines, won't he?" asked Marguerite. He will, all agreed.

It was decided by the group, that they would practice at the next meeting.

Next day, the children were assembled and Gerald said, "I can hardly wait to see Kenneth all dressed up, I'll bet he makes a funny Santa Claus." Soon Kenneth appeared and sure enough he had brought the cotton, the pillows and the boots. Edith triumphantly displayed the red suit all ready for the cotton trimming. This was quickly put on while Kenneth made his wig and whiskers.

Soon he came out of the dressing room, and what a funny Santa Claus he made! The boys laughed and laughed. Kenneth suggested that he was ready to begin. So he took his place on the left side of the stage and the singers took their places on the opposite side. "Am I in the right place?" asked Kenneth. "Yes, but you are not supposed to be on the stage yet. The singers are supposed to be there first," insisted Edith. Kenneth went out and waited until the group had arranged themselves in a semicircle on the right side, then he came in and asked, "what do I say now?" "Say, hello children! Haven't you something you'd like to say to me before Christmas Day?" commanded Marjorie. He laughed at the way she said it, but he repeated it in the same way.

"Now, let's sing the first verse to him," said Argoles. So all the singers looked toward Santa Claus as he came closer to the circle and sang the first verse. "Now what shall I say?"

Kenneth asked. This time Marjorie said she didn't know. After a few minutes Kenneth said, "Oh, I'll say that I can't tell them what I'll bring them, but I'll find out where they live." "Fine," agreed the children. So he stepped up and said, "I must not tell you what I'll bring, that would spoil the fun, but where will I find your stockings?" Then the children sang the second verse—and Santa said, "Well, well, I almost forgot to ask you what you want me to bring you." The children all went up closer and Johnny ran over to Santa and sang, "Johnny wants a choo choo train." Then he stepped back into place and Nellie sang, "Nellie wants a dolly." Susie then took her place and sang, "Susie wants a story book." Then the whole group turned to him and sang, "She thinks dolls are folly."

Then Marjorie said, "I think you should all go back to your places now, don't you, Miss Moberly?" Miss Moberly agreed. They all went back to their places and George sang, "As for me, my little brain isn't very bright, choose for me, old Santa Claus, what do you think is right." "Is that all of the play?" asked Carl. "I think Santa Claus should bring us some presents after we sing for him," said Argoles. "So do I," said Gerald. "Why couldn't we have him come out after we go off the stage and put some presents in our stockings?" asked Edith. "We can," replied George. "But we must have our stockings hung up," suggested Maxine. "We'll have two scenes then," said Marjorie, "and let the curtain down between times." "After the curtain goes down, you all leave the stage and we'll darken it a little while Santa fills the stockings, then the lights will come on after he leaves, and the children will come in and find their presents," she added. "What will we say?" asked Gerald. "Let's don't say anything, let's just hum the song," suggested Marguerite. "As soon as we get our presents, let's drop the curtain," added Katie. This was agreed to.

3. *Executing.*

Jolly Old Saint Nicholas, as it was dramatized:

Cast of Characters

Santa Claus ..... Kenneth Kenny
Johnny ..... Carl Fisher
Nellie ..... Maxine Tropel
Susie ..... Katie Pope
The Little Boy ..... George Carter
Other singers—Marguerite Gage, Edith Douglas, Argoles Douglas, Gerald Cook

SCENE I. In the house.

Enter singers from right and form semicircle, enter Santa Claus from left.

Santa Claus: Hello! children. Haven't you something you would like to tell me before Christmas?

Children: Jolly Old Saint Nicholas
Lean your ear this way,
Don't you tell a single soul
What I'm going to say.
Christmas Eve is coming soon,
Now you dear old man,
Whisper what you'll bring to me,
Tell me if you can.

Santa Claus: Oh! I can't do that,
That would spoil all the fun,
But where will I find you on Christmas Eve?

Children: When the clock is striking twelve,
When I'm fast asleep
Down the chimney broad and black
You'll be sure to creep.
All the stockings will be there,
Hanging in a row,
Mine will be the shortest one,
You'll be sure to know.

Santa (taking notes): Fine, now I have a long journey to make and I must go. But I haven't found out what you want me to bring you yet. Will you tell me that?

Johnny: Johnny wants a choo choo train.
Nellie: Nellie wants a dolly,
Susie: Susie wants a story book,
Others: She thinks dolls are folly.
The little boy: As for me, my little brain,
Isn't very bright,
Choose for me, Old Santa Claus,
What you think is right.

Santa Claus: Thank you! Thank you! Now I must go. Goodbye—

Children: Goodbye, Santa Claus.

Curtain

Scene II. Same room, but darkened, stockings hanging across the back with large names pinned on them.

Santa enters quietly, carrying a huge bag of toys. He puts gifts in the stockings and hurries out. Children enter.

Johnny: Oh! oh! Santa did bring me a train.
Nellie: And he did bring me a dolly.
(The others start humming "Jolly Old Saint Nicholas" while they unpack their stockings.)

Curtain

4. *Criticism.*

As the children were gathering up their wraps to leave, George said, "I think Santa Claus was good, don't you, Bobä" "Yes, but he turned his back to the audience too much," said Bob. "We didn't sing very good," said Edith. "I think you did fine," commented Miss Moberly, "it looked good from the back." "I like pantomimes better," said Marjorie. "What's a pantomime?" asked George. "I never heard of one." Marjorie explained. Edith and Katie said they would like to give one some time. Argoles said he would like to, too, because you wouldn't have to say anything. Carl said that he had rather be in one where there wasn't anything to learn but the acting. He said he liked to act out things.

5. *Leading on projects.*

1. How to Pantomine Jolly Old Saint Nihcolas.

6. *References used.*

1. Smith: Songs for Little Children.

STENOGRAPHIC REPORT 4: A CONVENTIONAL LESSON IN FOURTH GRADE GEOGRAPHY

Products and Industries of the United States

Miss James (teacher): We are studying today the chapter in our geography on the products and industries of the United States. I wish that all of you would close your books and sit up straight. I feel that the lesson today is very important. I hope you all have a good lesson. You know I assigned this

chapter in our geography at our last meeting and asked you all to study it carefully. Billie, name one important product of the United States, please.

Billie: Turnips.

Teacher: Why Billie, didn't you read the lesson?

Billie: My grandpa said turnips was the most important crop we grow.

Teacher: Your grandpa doesn't know and you should have read the lesson. Nellie, you answer my question, please.

Nellie: Our geography says wheat is an important product.

Teacher: Fine, Nellie, you read the lesson, didn't you? I am sure you consulted your book instead of your grandpa.

Billie: I guess we grow turnips too.

Teacher: Let's have no more about turnips now. Let's proceed with our lesson, as given in our text. Mary, name another product, please.

Mary: I don't know any. I didn't get to read the lesson.

Teacher: Well, why? James, you name one.

James: I don't know either.

Teacher: Well, James, they are all listed on page 100 in our text. Didn't you see corn?

James: Oh, yes, I remember now. Corn is one of our products.

Teacher: That's better. Who can name the rest—that is, sugar, corn, beets, etc.

Lula: Sugar cane, beets, corn, lumber, wheat, hogs, mules, sheep, potatoes, and barley. I memorized all of them.

Teacher: Good, Lula. Now let's study our industries. Henry, name an important industry of the United States.

Henry: Making brooms. My dad said broom making was the most important thing in our community.

Teacher: Well, Henry, didn't you read your lesson? It says nothing about broom making. I am surprised! Let's stay with our text. Fannie, you name one."

Fannie: Lumbering.

Teacher: Good; you name one, Jewel.

Jewel: Sheep raising, making flour, making shoes, making farm machinery, making automobiles, and making ice.

Teacher: Fine, Jewel! Now tell us, Julia, how flour is made?

Julia: I don't know. I can tell how flour is made at our mill.

Teacher: We don't care about that. We want you to tell us how our text says flour is made. You tell us, Ned.

Ned: I read the lesson, teacher, but I don't know.

Teacher: Too bad you have such a poor memory, Ned. Opal, suppose you tell us.

Opal: What did you say, Miss James?

Teacher: Tell us how flour is made.

Opal: I didn't get that far in the lesson.

Teacher: Can anyone? Well, we are going to have this lesson again.

Billie: What lesson?

Teacher: The chapter in our text on products and industries of the United States. We are going to have it again tomorrow.

Fred: Good; I won't be here tomorrow.

Teacher: Now listen. All of you open your books at page 75. I want you all to study this chapter and be able to answer any questions I ask you tomorrow. Class excused.

STENOGRAPHIC REPORT 5: AN ELEVENTH GRADE CONVENTIONAL LESSON IN ENGLISH HISTORY

Theory of the Divine Right of Kings and How It Worked in Practice

Mr. Jones: We are studying today the doctrine of the Divine Right of Kings and how the theory worked out in practice. This is an old theory—this theory of the Divine Right of Kings. Why should we of this age spend time studying this theory, John?

John: Because of its bearing on civilization—as affecting civilization.

Mr. Jones: Yes, can you come down and be more specific? Can you come to the point a little closer? Can someone state why we should spend time studying this theory? Bill?

Bill: Because of its bearing on civilization.

Mr. Jones: Particularly of what age, Bill?

Bill: The age of the 17th and 18th centuries.

Mr. Jones: State briefly the theory of the Divine Right of Kings, Mary.

Mary: According to this theory, the King is like a father over a large family and the people obey him as a father. He has the power to do anything he pleases and his children have no right to correct or to take him off of the throne and if he makes a wrong decision it is just the hard luck of the people.

Mr. Jones: That will do. Has Mary stated the theory satisfactorily to you, Bennett? Or do you think of something you would like to add to the statement?

Bennett: No sir, I don't.

Mr. Jones: Blanchard?

Blanchard: The king is responsible to God alone if he makes any mistakes of counsel. It is up to the people.

Mr. Jones: George wishes to add something.

George: They believe God gives them power to rule as they do.

Mr. Jones: How is this Divine Right King appointed? How do they know who the Divine Right King is, Jim?

Jim: Heredity points out the legitimate king?

Mr. Jones: Yes, that will do. Who advanced the theory that heredity pointed out the legitimate king, Florice?

Florice: Filmer.

Jim: Bossuet.

Mr. Jones: Now, Florice, Filmer claimed that the power of the hereditary king is absolute. On what did he base that?

Florice: That it is unnatural for the people to choose their kings.

Mr. Jones: What statement did he make concerning this, Carl?

Carl: Well, he said that kingly power is the law of God, so it had no inferior power to limit it.

Mr. Jones: No, Filmer took the position that kings cannot be corrected or deposed by his subjects on what basis, Carl?

Carl: Because God has given the people the king to rule and they have no right to rule for themselves?

Mr. Jones: And he based his argument on a statement of Solomon. What was that statement, Bill?

Bill: I don't know.

Mr. Jones: Who remembers that statement of Solomon's which Filmer takes to prove his theory of the Divine Right of Kings?

John: We must keep the commandment and not say, "What dost thou?"—just do it.

Mr. Jones: Right, there was another prominent man of the time who argued strongly in favor of the Divine Right of Kings?

Mary: Bossuet.

Mr. Jones: Spell it, Mary.

Mary: B-o-s-s-u-e-t.

Mr. Jones: How did he get his title to prominence, Rolls?

Rolls: He was a minister in the court of Louis XIV of France.

Mr. Jones: He was more than a minister, Catherine?

Catherine: He was the court chaplain of Louis XIV.

Mr. Jones: What argument did Boussuet advance in favor of the Divine Right of Kings, George?

George: That the throne of a king is not the throne of a man, but the throne of God himself.

Mr. Jones: In all, this argument tends to support the theory of the Divine Right of Kings, does it not, George?

George: Yes, sir.

Mr. Jones: From what source, Bennett, did the supporters of this theory at first draw their argument?

Bennett: Well, they first drew it from the Bible of olden days when the people of Judea and God's country said that their kings were anointed by God and Him alone.

Mr. Jones: Now, later on, what argument did they use, Maude?

Maude: They resorted to pure argument. This is an example: "What is natural to man exists by Divine Right; kingship is natural to man; therefore, kingship exists by divine right."

Mr. Jones: Filmer advanced that argument. Now let us go somewhat into the history of the theory of the Divine Right of Kings. Review briefly this history, Jewell.

Jewell: In Egypt the people thought the kings ruled by divine right and in the East they built temples to the divine Caesar.

Mr. Jones: How about the Pharaohs of Egypt, Lorena?

Lorena: They believed that they ruled by divine right—they were believed to be of divine origin and divine right.

Mr. Jones: So we find the theory is an old one. Now Evelyn, so far as this theory affects us, its origin really begins where?

Evelyn: During the time of the German—

Mr. Jones: During what age in history, Bill?

Bill: The medieval age.

Mr. Jones: The German Emperors of the Holy German Empire got into a dispute with whom, Lorena?

Lorena: Popes. The supporters of the emperors framed the theory of the Divine Right of Imperial Authorities. They declared themselves free from papal power, and finally Dante said the emperor ruled as much by divine right as the pope.

Mr. Jones: Who was Dante, Mary?

Mary: He was exiled and went to Ravenna.

Mr. Jones: What was his business, Jim?

Jim: He was a forerunner of the Renaissance.

Mr. Jones: And back of that, May?

May: He was a philosopher.

Mr. Jones: And aside from all that, George?

George: A poet.

Mr. Jones: Right. When you say that he was a poet you say more than you have before—and he argued in favor of the Divine Right of Kings. But to get back to the discussion —these people did not separate themselves from ——— but argued about what, Raymond?

Raymond: They argued that they ruled by divine right as well as the pope, but they did not break away from his law. They were willing to acknowledge the divine right of the pope as pertained to religious and church matters, but regarding temporal rule—they ruled over temporal affairs as much by divine right as the pope ruled by divine right over spiritual affairs.

Mr. Jones: And so the theory grew, did it, Raymond?

Raymond: Yes, sir.

Mr. Jones: What place did the Reformation have in the establishment of this theory, Rolls?

Rolls: When the Reformation came the kings saw that they would get into trouble if they did not try to teach the divine right of kingship, and so they set out and made them teach this to the people more than they had before the Reformation and therefore, it grew in the people's minds and stayed there.

Mr. Jones: There was a sharp discussion brought about by the Reformation as to the right of temporal rule and spiritual rule. The Reformation was a general forward, enlightening movement, and the people were awakened to the necessity of more personal freedom and governmental freedom. Now that we have seen what the theory is and what its history is, let us see how it worked out in practice. What manner of men and what sort of rulers were these Divine Right kings, William?

William: The majority of the rulers were cruel and unjust, but a very few of the rulers were liberal and good to the people.

Mr. Jones: Now you say that the majority of the rulers were unjust. Can you give some specific instances, Lorena?

Lorena: They would spend the money of the people on unnecessary wars—wars of no benefit and they would build large temples to the pope and take the people's money for this—they would waste their money in every way.

Mr. Jones: Now will you come down to the point. Can you give now the names of some specific kings whose rule proved to be unwise, Raymond?

Raymond: James I of England, Charles I, and Louis XIV of France.

Mr. Jones: What was Louis' idea of kingship, Fannie?

Fannie: His idea was that he was the state. He said, "I am the State," and that his people should obey his orders.

Mr. Jones: He gave an exhibition of his belief in his divine right during his reign, do you recall, Mary?"

May: He told the people that he did not need his advisors, that he would run the government as he chose, and when he needed them he would call on them, which showed that he wanted to rule by himself.

Mr. Jones: That is positive evidence of what he thought. What was James' conception of the kingship? You mentioned him as being one who believed in the divine right to rule. State briefly what his conception was. Florice, will you state that? Robert?

Robert: He said that it was blasphemy to dispute anything the king said or could do because they accepted what God said as true and should therefore accept the king because he was commissioned by God, and the people had no right to dispute it.

Mr. Jones: What was Charles I's idea of kingship, Blanche?

Blanche: When they were about to cut his head off, he said, "For the people I truly desire their liberty," but their liberty did not consist in their having any part in the government at all.

Mr. Jones: These three men—James I and Charles I of England and Louis XIV of France—were Divine Right kings—they were typical divine right kings, were they, William?

William: They did not govern the people wisely, they used the public funds unjustly.

Mr. Jones: True, what else, Blanche?

Blanche: He did not mention that they waged costly wars—they did that and they built castles for their own use.

Mr. Jones: Now, Louis XIV waged a number of costly wars, did he, Jewell?

Jewell: Yes. He waged them to satisfy his royal ambition and to satisfy his personal ambition. Charles I's belief in this brought him to the block.

Mr. Jones: But a few—the enlightened despots—ruled wisely. Who were they, Carl?

Carl: Catherine the Great of Russia and Joseph II of Austria and Frederick the Great of Prussia.

Mr. Jones: What kind of rule did these three give to their countries, Letha?

Letha: They ruled justly to the people. They did not want

the people's money. They did not wage unnecessary wars to satisfy themselves.

Mr. Jones: What they did, then, was in the interest of the people. Is that true, James?

James: They said they were the servants of the people.

Mr. Jones: We now have three rulers who believed as thoroughly in their divine right to rule as Louis XIV believed in his divine right. They gave to their people wise and just government. They were the sole rulers, but they probably got better results under this system than they would under our system. But only a very few of the divine right kings ruled in the interest of the people. That was the trouble. Perfect wisdom and perfect justice is good but it was not always that way. And it was not often that sons inherited the traits of the father. If a father was a good man it did not always follow that his son was that way; sometimes it was different. The trouble with the theory, then, is that the power to rule is in the hands of the king and is transmitted from father to son? Is that true, Bill?

Bill: Yes, sir.

Mr. Jones: An absolute ruler should have these qualities: perfect wisdom and perfect goodness combined in the same person. However, these qualities are seldom combined in the same person, and are less seldom transmitted from father to son. At this point, the theory of the Divine Right of Kings falls flat as a practical form of government, does it, May?

May: Yes, sir.

STENOGRAPHIC REPORT 6: A TWELFTH GRADE LESSON IN CONVENTIONAL ENGLISH LITERATURE

After a reference to some of the Leather Stocking stories the teacher asks. "What do you think of sequels as a rule, in the writing of books? Are any of your favorite stories written with sequels? Mary is bothered by the word sequel; who can help her out? What is sequel?

Pupil: A sequel is a book that has the same characters in, and comes after the other one.

Teacher: Did you get enough to understand it? George says a sequel is a book that has the same characters in, and comes after the first story. Now, do you know any sequel; have you read a book with a sequel?

Pupil: Yes, the Iroquois.

Pupil: Prisoner of Zenda.

Pupil: Count of Monte Cristo.

Philip: Monastery and the Abbott.

Teacher: I am thinking of some good old standard boy and girl stories.

Pupil: Pickwick Papers.

Pupil: Little Women.

Teacher: Yes; I was going back to Louisa Alcott, and the time she had to satisfy all the boys and girls.

Pupil: Eight Cousins.

Teacher: Yes. Do you like sequels as a rule?

Pupil: It depends on the book. If the first book is not interesting, you don't care for a sequel, and if it is you want to go on.

Teacher: Any other reasons why there might be some books that would not demand it?

Pupil: Cooper writes so you don't need a sequel, he writes them so well, he ends his stories.

Teacher: A book that needs a sequel is where he does not quite finish, and Cooper seems to finish all his stories.

Pupil: You cannot have a book end up tragically and then have a sequel to it.

Teacher: Yes, you cannot have a sequel when the hero dies. Well, as a rule do you think a sequel is apt to be so successful a book as the first?

Pupil: No; for after the first you get kind of tired, when you are reading of the same people.

Teacher: How do you think the author feels?

Pupil: I guess he is tired of writing on the same subject.

Teacher: I think sometimes an author is, especially a sequel. That is one thing about sequels. Cooper was wonderfully successful as far as they were concerned.

Pupil: I don't think Dickens got tired of writing sequels to Pickwick Papers, because I think the sequel was more interesting than the first book. He wanted to show the common people how he felt about it, and he thought he would write all the time for their benefit.

Teacher: The characters in Pickwick Papers seem to be so real you can go on inventing characters for them. It all depends on the book.

Alfred: If you have a book, and at the end you have the story all finished, and you have a sequel, it is like another story.

Teacher: Yes, that is true; you get really another story, as we have in Cooper. Cooper's life on the whole seems to be

so serene and comfortable we are interested to know he did have a little trouble. We feel that once in a while sorrow is an inspiration to a writer. The kind of trouble that Cooper had was not the kind that might have inspired him to write. What difficulties did he have?

Pupil: He was fond of quarreling.

Teacher: What about?

Pupil: About politics and his writings; I think he thought people treated him wrong.

Teacher: Yes, indeed; what time did that trouble come in his life?

Elsworth: Towards the end of his life a banquet was given in his honor, and he refused it, and brought a feeling against him, but before he died his friends planned another banquet, but he died before it was given.

Teacher: Do you agree with Juliette that he was very fond of quarreling?

Pupil: I think he was more or less a peaceful man.

Pupil: He never tried to pick a quarrel, but never went out of his way to stop one.

Pupil: He was always convinced he was in the right when they argued against him.

Pupil: I think he was disagreeable as a young man.

Teacher: What makes you think that?

Pupil: It just said in a book I read that he was rather disagreeable, and people did not care to argue with him.

Teacher: He was unwilling to see the other's point of view. Let us see what these quarrels were about; what about his home life, did he have a happy home?

Pupil: I think he had a fairly happy home.

Teacher: Where did he live?

Pupil: He lived up in the woods.

Teacher: When you say in that general way he lived up in the woods, it doesn't sound as if he had a very comfortable home. The impression that he had a happy home is right. What about all these quarrels? They evidently had nothing to do with domestic affairs.

Pupil: They were political affairs.

Teacher: The politics of the times. Cooper, you remember, had spent a little part of his life just previous to all these difficulties in Europe. Did you get an impression about that right?

Pupil: Yes, in France he had a chance to defend his country and that was what the quarrels were about.

Teacher: I do not think your account goes very much into detail there. When he came back to this country, he found that he felt rather critical toward his own country, just as perhaps the people in England and in France had felt toward America, and when he criticized his country you can imagine the attitude of America and Americans toward Cooper. You may be perfectly willing to criticize your own country but when somebody else criticizes it how quickly you resent it. Do you know any other author who criticized America pretty sharply and aroused considerable opposition by it?

Pupil: Dickens was quite sarcastic about America. He came over to America and went to the White House, and saw how the government went along, and just at that time we were having a lot of trouble; it was just at that time when—just after the war, and things were not going nicely; there were great debates; and when he went back to England he wrote a lot of sarcastic things about American senators.

Alfred: I think he wrote the bad side of America.

Teacher: Did he criticize our morals or our manners?

Pupil: Our manners.

Teacher: Very largely our manners. And how did the people feel about Dickens after he had gone home?

Pupil: He was treated kindly and entertained very hospitably, and they thought it was kind of mean of him to have gotten all that kindness shown to him and then to go back and write something disagreeable.

Teacher: It was not what guests usually do. There is a modern English writer who criticized us pretty sharply not so very long ago.

Pupil: An English writer always thinks he knows a little more than he does.

Teacher: Don't you think that is rather the attitude that America took towards the criticism of our manners?

Pupil: You hear a lot about an Englishman; he comes over and doesn't like the ways here, and he thinks he knows it all.

Teacher: That is not exactly a fair attitude to take on our part. I am thinking of a modern English writer who came over and visited us, had a great deal of kindness shown him, and then went back and criticized Americans. Have you ever heard of Kipling criticizing us? So we find when Cooper came back and criticized his own people, told them what they had left undone, they resented it, and the last years of his life were rather stormy; he was in debates as to political ques-

tions and national questions in general. With what grade of writers do you associate Cooper?

Pupil: In the introduction of American literature in the class with Scott.

Teacher: An English writer at the same time; by the way, did they ever meet?

Pupil: Yes.

Teacher: Yes, they met, and it was very delightful that these two romantic authors met as they happened to do.

Teacher: I am thinking what American authors he was friendly with.

Pupil: With a men's club, he was in that with Lowell, wasn't he?

Teacher: I think his best friends were men that were very prominent in New York at that time, Bryant and Irving, and it mentions quite a few: Chancellor Kent.

Teacher: Does that word "Chancellor" mean anything to you? To whom does that word mean anything?

Pupil: The man highest in a college.

Teacher: You think it was chancellor of a college? I do not think it was meant to be used that way about Kent.

Pupil: I think it was some kind of a government official.

Teacher: Who can get a little nearer? Does chancellor mean anything to you? (Addressing pupil.)

Pupil: Chancellor of the Exchequer.

Pupil: I think it is used more in England; it has something to do with England.

Teacher: You think it is an English term, do you? And was no one at all curious about it when you read "Chancellor Kent"? You felt perfectly satisfied to say to yourself, That is an English term, or it means Head of a University, or Chancellor of the Exchequer? Juliette, will you remember to hold the class responsible for it next time; not to be responsible for it, but to hold the class responsible? We have had a number of friends of Irving mentioned, and friends of his club. What was the name of that club?

Pupil: The Bread and Cheese Club.

Teacher: Was Bryant there?

Pupil: Yes; Oliver Wendell Holmes and Morse.

Teacher: Was he a member of the original club?

Pupil: Later on.

Teacher: Morse made what discovery?

Pupil: Telegraph.

Teacher: It was a club composed of men of varying talents. Have you ever heard of another club where the men got together and talked of their professions, literary things, and perhaps introducing into their number men of other professions —famous clubs?

Pupil: Longfellow, Lowell and Hawthorne.

Teacher: I do not believe Hawthorne was a member.

Pupil: Benjamin Franklin.

Teacher: You come by and by to two or three very famous clubs where men gathered to talk about literature and their professions.

Philip: That one—the Hartford Rest?

Teacher: Where do you hear of them—well, Everett, anything else about these men?

Pupil: They were mostly poets, I think, and they lived in and around Hartford, and they formed a club; they were not afterwards known; they never became very great writers.

Teacher: There were some very well known writers; and that little crowd of men did form a club.

Pupil: We don't read their poetry very much now.

Teacher: No, rather as a matter of curiosity; the crowd of men I have in mind you will come across soonest is Oliver Goldsmith and Samuel Johnson, in England. I want to announce the work for next time, and I want to hand back to you the themes I have corrected, and I shall ask you to bring them next time so that we may enter our misspelled words in our books. The work for next time is to take a portion of the chapter on Bryant, read as far, please, in that chapter, as the discussion of American literature at the time Bryant wrote, on page 176; that covers practically the whole of Bryant's life, and leaves for another time only the discussion of Bryant as a writer. The first word misspelled is the word "really," the next is the adverb "too," the third is a new word, the word "frivolous." How do you spell that word?

Pupil: F-r-i-v-i-l-o-u-s.

Teacher: How will you put it down, Frederick?

Frederick: F-r-i-v-i-l-o-u-s.

Teacher: Another word, "tantalize"; George Meyer, how are you going to write that?

George: T-a-n-t-a-l-i-z-e.

Teacher: The class may pass back to your own room, and not back to my room.

SELECTION FROM THE LESSON ON "THE LADY OF THE LAKE"
(Fourth Canto)

Teacher: That is as far as you went; a good place to stop, in one way; why?

Pupil: Most exciting.

Teacher: An effective, dramatic moment. Anyone who has any further light to give on the characters of these people we are speaking about? Do you know any more of them than you did last time?

Pupil: Yes.

Teacher: Of whom?

Pupil: Roderick Dhu.

Teacher: What?

Pupil: He can be very hospitable and courteous, when he likes.

Teacher: Anything else?

Pupil: When he gave the signal, and the men jumped from the bushes—he had promised to take Fitz James to the lowlands, and he had him right in his power, and he could have killed him if he had wanted him.

Teacher: What did that show—the fact that he didn't?

Pupil: That he was true to his word.

Teacher: Truth and courtesy. What else?

Pupil: Sense of fairness.

Teacher: What else? Generosity?

Pupil: Yes.

Teacher: Anything else, Miss F.?

Miss F.: Fitz James shows his fearlessness when he says to Roderick he isn't afraid of him—

Pupil: I think also when he gave this ring to this girl.

Teacher: That was fair and gracious, too. Anything more?

Pupil: He was a warrior too—where he says he has always been used to fighting, and will trust to his sword.

Teacher: And there is something else, something so fine that other characters talk about him; where were the women and children?

Pupil: On the island. (Laugh.)

Teacher: Yes, all measures taken for their protection. As a rule, do the characters seem lifelike?

Pupil: Yes.

Teacher: Which is the most lifelike one to you, Mr. J.?

Mr. J.: I think Fitz James.

Teacher: How many suitors has Elaine, by the way.

Pupil: Three.

Teacher: Who are they?

Pupil: Graeme, Roderick Dhu, and Fitz James.

Teacher: Are those men distinct, three suitors or three distinct men?

Pupil: Three distinct men.

Teacher: I am going to ask you to write about this next time, so think about it, please. From the beginning has the story flagged, or has it gone on rapidly?

Pupil: I think it has gone on rapidly.

Teacher: No halt at any place, nothing to retard the story?

Pupil: No.

Teacher: What are some of the scenes that stand out in your mind through the story?

Pupil: You mean the one I remember best?

Teacher: Yes, the one you remember best?

Pupil: This last scene where Sir Roderick—

Teacher: What happened?

Pupil: Where the men sprang out of the bushes.

Teacher: One of the most dramatic points in the story. Anything more?

Pupil: The return of Roderick in the First Canto.

Teacher: The return of the war boats, the springing of the men from the bushes at the whistle; Mr. V., give me another scene.

Mr. V.: The crazy woman.

Teacher: All right, what about her?

Mr. V.: Where Murdock tries to kill Fitz James—where he is going to kill the crazy woman—

Teacher: Call her Blanche, if you like. What else?

Pupil: Her song.

Teacher: Yes; what other scene, one of the best in it, no one has spoken of it.

Pupil: I think the quarrel between Malcolm and Roderick.

Teacher: Yes, it isn't very long, is it?

Pupil: When Douglas refuses to allow Ellen to marry Roderick.

Teacher: That is a moment only; I want something a little more lengthy, if possible.

Pupil: Where Ellen first meets the stranger in the boat.

Teacher: What else, how does the story open?

Pupil: The hunt.

Teacher: A good picture of the hunt, wasn't it well told? What makes the hunt so interesting, Miss P.?

Miss P.: So real.

Teacher: Where does your interest focus itself?

Pupil: On the deer.

Teacher: After that?

Pupil: On the hunt?

Teacher: Yes.

Pupil: On the horses and dogs.

Teacher: The incident of the hunt, the return of the war boats, the whistle of Roderick, the death of Blanche, and so on. Do the incidents that happen seem probable, Miss H.?

Pupil: They do, for that time.

Teach: Anything that seems at all forced?

Pupil: Yes.

Teacher: Did they happen in a natural almost necessary way? Anyone think anything was forced?

Pupil: I don't think those Highland soldiers were apt to lie in the bushes that way.

Teacher: What sort of warfare did they have; anyone else?

Pupil: I think it was kind of foolish the way Fitz James said he would fight the whole clan.

Teacher: Does that bring out anything about Fitz James that might have been put in purposely?

Pupil: It was just said for effect; he didn't mean it.

Teacher: Yes, possible.

Pupil: Where Blanche was running around all the time? I don't think a crazy woman would be apt to be running around like that.

Teacher: What had they done to the women and children?

Pupil: Sent them to this island.

Teacher: Yes.

Pupil: I think it is improbable that she got back her reason.

Teacher: Isn't it possible?

Pupil: I think it is improbable that Fitz James swears to avenge her, a stranger.

Teacher: Wait a moment, can anyone defend that?

Pupil: That was one of the principles of chivalry at that time.

Pupil: Would he be apt to do it for a mad woman?

Teacher: Would that be an especial charge to his chivalry?

Pupil: Yes.

Pupil: And because of the thing he knew had driven her mad.

Pupil: Isn't it improbable that Fitz James should not recognize Roderick if he was against him?

Teacher: Wait one moment—

Pupil: He had been driven from the court in the time of James' father.

Teacher: Yes; what is the verdict, that the incidents are probable or not?

Pupil: Probable.

Teacher: Who thinks they are?

Pupil: Some are and some are not.

Teacher: We will see; hold your judgment until the end, and see. How much is description used in the story, Mr. T? Is there very much?

Mr. T.: Quite a little.

Teacher: For what did it seem to be put in?

Pupil: I think one place the Canto starts very quietly, and then the clan gathered in the fiercest preparation, terrible oaths, shows contrasts.

Teacher: Is it put in then, just as a scene, or for some distinct purpose?

Pupil: Distinct purpose.

Teacher: And in this case it was?

Pupil: Contrast.

Teacher: What other descriptions?

Pupil: Nature.

Teacher: Very much space taken up with descriptions of nature?

Pupil: Yes.

Teacher: Have you a pretty fair idea of the country?

Pupil: Yes.

Teacher: Better from the poem than from pictures, I think. Why, Miss P., is so much space given to description and country?

Miss P.: I think it would be necessary, especially when warfare is going one.

Teacher: Kind of think that what happens depends on country?

Pupil: Entirely.

Pupil: Scott was a lover of nature.

Teacher: For itself?

Pupil: Yes.

Teacher: Do you think the descriptions show a familiarity with the country?

Pupil: Yes.

Teacher: What makes you think so?

Pupil: The names are correct.

Teacher: That is true.

Pupil: He has the location of very small matters that others who are not familiar would not have.

Teacher: Something more?

Pupil: He seems to know how far it is from one place to another.

Teacher: Geography. Something more? Superstition used much in this story?

Pupil: Yes.

Teacher: Where and how, Miss W.?

Miss W.: A great deal of prophecy, whether they should go out to battle was decided by superstitious means.

Teacher: Yes, by superstitious means.

Pupil: And what the result of the battle would be is decided before.

Teacher: And what else? Some other little touches of superstition?

Pupil: The cave.

Teacher: Superstition comes in there; what else?

Pupil: I think the cross.

Teacher: What about the cross, particularly?

Pupil: Bolt struck by lightning; sacrifices.

Teacher: Sacrifices sound almost like—? Modern times?

Pupil: Greek.

Teacher: Greek and Roman—back a little farther.

Pupil: Old Testament.

Teacher: Yes; where else?

Pupil: I think a lot of superstition where the sword fell.

Teacher: Yes.

Pupil: Allen's prophecy.

Teacher: Something more? Do you remember Brian's curse? So far in the story have we had any hints at all as to the kind of man who wrote it, anything that gives you any idea of Scott himself, his likes and dislikes?

Pupil: He liked nature and animals.

Teacher: What else?

Pupil: Outdoor sports.

Teacher: Outdoor sports; what else?

Pupil: Clan life.

Teacher: Clan loyalty, all right, what else? What kind of man was he? What does he admire in men, in women?

Pupil: Bravery.

Teacher: What else?

Pupil: Fairness.

Pupil: Chivalry.
Teacher: What else?
Pupil: Generosity.
Teacher: What else, Miss S.?
Miss S.: Hospitality.
Pupil: Truth, constancy.
Pupil: I was going to say beauty.
Teacher: Yes.
Pupil: Physical strength; I think bravery in women too, Ellen sitting alone in the cave.
Teacher: Yes, practically alone, save for whom?
Pupil: Allen.
Teacher: Who is Allen?
Pupil: The aged minstrel.
Teacher: If Scott loved that sort of thing, what sort of man is he?
Pupil: Good sort of man.
Teacher: As a whole, what sort of story, then, is it, is it interesting?
Pupil: Yes.
Teacher: What is it filled with?
Pupil: Action.
Teacher: Does Scott love action?
Pupil: Yes.
Teacher: Do you know anything about his life?
Pupil: He was lame.
Teacher: Would he have an exaggerated appreciation, perhaps, for action?
Pupil: Yes.
Teacher: Who are his followers—what people have written stories full of action after Scott—can you think of any?
Pupil: Cooper.
Teacher: Yes, why is Cooper particularly like Scott?
Pupil: Scenery.
Teacher: Is scenery essential?
Pupil: Yes.
Teacher: What else?
Pupil: Characters.
Teacher: Somewhat the same ideas and characters.
Pupil: Civilization—the way they kept together.
Teacher: Rather wild civilization; anyone else as a possible follower?
Pupil: Stevenson.
Pupil: Washington Irving.

Teacher: Washington Irving?
Pupils: No.
Pupil: Henty.
Teacher: Henty? Well, perhaps, yes, in some respects. Whom else? A Frenchman maybe you might know.
Pupil: Dumas?
Teacher: Yes. Next day's lesson Fifth Canto finished, and read the Sixth. I want to see if the next time you can tell me what particular task Scott set himself when he wrote this story, etc.

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